

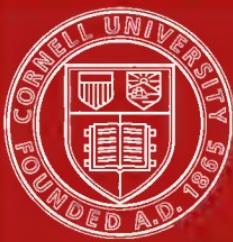
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Shanghai Gardens

Shanghai Gardens

with

Notes on the Cultivation of hot house
Plants, Flowers, &c.



Shanghai:
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1910.

FOREWORD

THE collection of Notes and Sketches herewith gathered together appeared in weekly parts in the columns of "Sport and Gossip." As nothing of the kind had ever been done in Shanghai before, it was thought that their publication might be useful to the ever-growing number of residents who are so fortunate as to have their own gardens.

The collection is not quite so complete as it was intended to make it, owing mainly to a change in the editorship of the journal, but whatever shortcomings may be found on that account are, the publishers believe, more than made up by the excellent practical notes beginning on p. 89 These are from the pen of a most competent horticulturist, one whose knowledge of Shanghai garden capabilities is second to none, and it will be found that in them the kitchen garden has been kept in view no less than that of the flowers. The publishers, therefore, in offering this little volume to the public, do so in the well-founded belief that it will be useful to a large number of Shanghai residents, and hardly less so to numbers at the outports.

Shanghai, March 1910.

SHANGHAI GARDENS

During all the years of Shanghai's existence nobody has taken the trouble so far as we are aware, to keep a systematic record of what a wonderfully fertile soil and widely diversified conditions of climate are able to accomplish in plant life within the limits of one short year. The Shanghai resident has been either too busy, too little inclined or too little learned in practical botany to be willing to undertake what is indeed something of a task,

If possible, we hope during theyear to remedy this defect. Our aim is modest. We have not the slightest intention of writing a treatise on Shanghai flora. We do not profess to be able to turn an amateur horticulturist into a professional gardener, neither do we hope to be able to tell everything respecting every bloom and to do it "while you wait." Our desire is much more limited. Week by week, to the extent of a column or two, we want to tell our readers and all who may honour us with their attention what is being done, not only by the plants themselves but what should be done by their caretakers. Many a garden here would be the better, the brighter, and the more satisfactory all the year round if the Master of the house, or, better still, the Mistress, were able to say to the gardener: "Look here, gardener; just now I wanchee you puttee plenty that Verbena in pots. All same wanchee sow that Sweet Pea, My have got seed. Then by and by he belong plenty handsome."

But our readers will say that they are not disposed to experiment in their gardens at the command of Tom, Dick, or Harry. And rightly too. We should not presume even to offer advice were

it not that we know the advice which is to be given is the best that Shanghai can afford.

With this little preface then we beg to introduce our readers to the Greenhouses in the Nursery Garden, as the only place at the moment where the public can see a fine selection of flowers.

JANUARY NOTES

January is not a flowery month in Shanghai except with such plants as may be kept under glass.

You may find a Winter Sweet (*Chimonanthus fragrans*) outside, but not many more. Yet a cursory glance at the flowers offered for sale in the streets or a survey of the private greenhouses, ever growing more numerous in the Settlement will reveal a surprising number of floral gems from which the tasteful hostess is able to select a sufficient variety for charming effects which she employs to delight her guests. The daisy-like flowers of the Marguerite (*Chrysanthemum frutescens*) are plentiful and always to be relied on for decorative effect. They are not comparable, of course, with their resplendent sisters, the chrysanthemums pure and simple, but when these sisters have disappeared, just appreciation is the reward of greater modesty.

But to the Greenhouses.

All Christmas week there might have been seen what was really a record display for this season of the year. Nowhere else in the Settlement, probably, are some of these blooms to be found. One house was almost entirely filled with a mass of white spiraea-like flowers. That is the *Moschosma riparium* so-called from the smell of musk which it possesses. Unluckily we have no common English names for many of these hot-house plants and so are obliged to fall back upon the classical. A little acquaintance with the blooms, however, soon serves to impress the name upon the memory.

Then there are the Poinsettias, a brilliant assemblage, which, with plenty of greenery around them, light up a room in the most delightful fashion. They get their name from a Mr. Poinsette who discovered the plant in Mexico in 1828. The flower is quite insignificant so far as appearance goes, Nor are the red leaves true leaves, as a comparison of them with the real leaves will show. They are what is technically known as bracts, and their *raison d'être* is attraction, not of the human eye, but of that of the insect which is to serve in the fertilisation of the true flower close by, a wonderful example of design in nature or of the survival of those plants only which can contrive to secure the due performance of vital functions.

The orchids include a specimen in full bloom of the charming *Cattleya trianae* which hails from Brazil, and needs but to be seen to be adored. There are other orchids too in bloom in the green-houses.

Of the commoner flowers, also, there are specimens. The sweet scented violet the *zonale pelargoniums*, heliotrope, Chinese Narcissus, and Calla lilies are amongst those still in flower. *Peristrophe speciosa*, a plant with a profusion of magenta-coloured flowers makes a brave show. There are besides some Bouvardias, Roman hyacinths, *Plumbago rosea*, Paper-white Narcissus, Salvias etc. Many countries have been ransacked to provide such a supply. Marguerites from the Canaries, Geraniums from South Africa, Poinsettias from Mexico, Heliotrope from Peru. Bouvardias from Mexico and so on, One of our orchids, however, is the product of an English hot-house, being one of the first hybrids. That is a peculiar Calanthe.

CALANDAR

Any spring flowering bulbs not already potted up should at once be seen to. The tubers of Cyclamen and tnr-berose Begonias should also be potted. Cuttings of verbenas may be inserted. Seed of Sweet Peas may be sown in pots. Those who wish to grow fruit trees should prepare the beds. Dig them out to a depth of two and a half feet, place a layer four inches thick of broken bricks or clinkers in the bottom, fill in with soil with a good admixture of manure. When finished the beds should be about nine inches higherthan the paths. All vacant ground should be dug over.

THE NARCISSUS

No-one can deny that the typical flower of the opening year in China is the Narcissus, a Chinese variety of the Narcissus tazetta, variously known to foreigners as the Sacred Narcissus or Joss Lily. It is one of a vast family which on account of the powerful odour they have and its effect on mankind when felt to the full, have been given a name derived from the Greek "narke" stupor.

As the Chinese New Year approaches, these fragrant plants are the most conspicuous flowers in the market. Foreigners as a rule buy the blooms only, but the Chinese purchase the whole plant which they keep in flat porcelain dishes for the decoration of their rooms. Thousands of Narcissus bulbs are brought annually from Foochow to Shanghai while it is no exaggeration to say that hundreds of thousands are sent home to England and America where they can be sold for about sixsence each.

The usual mode of culture is to cut the bulb transversely across the middle, removing the uppermost half of the bulb scales, leaving only the growing plants and immersing them in water. After about forty-eight hours in the liquid, during which time they exude a quantity of glutinous juice they are removed and placed base downwards on gravel in a shallow receptacle into which water is poured till it reaches the base of the bulb. The object of the gravel is two-fold, to serve as a rooting medium, and to prevent the bulb from being immersed in the water. This done, nothing remains but to protect the plants from frost.

By cutting the bulbs in various ways and by exposing the growing plants to more or less light, the natives make them assume varied forms of which the favourite is that known as Crab' Claws. In this form the leaves and stalks are curved over almost in the shape of an arch, the curvature and general appearance having more or less a fanciful resemblance to the crab.

It is by no means necessary that the plants should be grown in water as the natives generally grow them. They may be grown equally well in soil in pots. Cutting the bulb will cause the growing plant to spread and thus give it a more graceful appearance, but there is no doubt that the entire bulb if grown in soil produces the finest flowers.

This Narcissus is only one of a large section of the same family, known collectively as the Polyanthus Narcissus distinguished by bearing a number of small flowers in a cluster on the summit of the flower stalk. According to their colour the Polyanthus Narcissus may be divided into two groups, one of which, the Chinese Narcissus, is typical, having white sepals and orange cups. There is, also at least one variety which is pure white. Despite the fact that the Chinese Narcissus has been cultivated in China for hundreds of years, and exported in millions, it is very doubtful if the natives could rightly claim it as an indigenous plant. Nowhere has it ever been known, so far as we are aware, to have been found in the wild state in the Celestial Empire. We find the first known record of it in the Pen Tsao Wui Pien written between A. D. 1522 and 1567. Even then it was a cultivated plant. Neither do we find any other varieties of the family here, and as the remaining members of the Polyanthus family are natives of countries about the Mediterranean, it seems probable that our present flower was introduced into the Flowery Land by the Portuguese who some half-dozen years before the above-named work was written had relations with the Far East. But there are authorities who think that part at least of the Chinese name

for the Narcissus, Shui Hsien Hwo, is derived from the Sanskrit which suggests a Cashmerian origin. As a matter of fact the plant is found wild there and along the Persian border.

The names of flowers serve perhaps better than anything else to show us what depths of poetical feeling there were in our ancient ancestors. There is a delightful Greek myth connected with the Narcissus. Its name was also the name of a most beautiful youth who became enamoured of a reflection which he saw in a clear fountain, thinking it to be the form of the nymph of the pool. Being unable to attain her (she was, of course, merely his own form reversed) he killed himself and then the nymphs, touched by pity for his fate, collected a pile of wood on which he might be burnt; but when the ceremony was to have been performed, they found, where the body had been, nothing but a flower, which has ever since borne his name, Narcissus.

The Chinese name means Water Fairy Flower, and as the reader will see contains a shadow of a hint, that, as in Greece, there may have been a nymph legend connected with it. There is a curious native belief amongst the local natives to the effect that the Narcissus will fade if approached by other than a chaste woman. There may here be a semblance between the use of the Narcissus in China and the orange blossom in England.

SEEDS

With the advent of spring the thought of the gardener turn as certainly to seeds as the poet says those of the young man do to love.

A few words on this subject, there fore, cannot be out of place.

Although seeds of good repute may be obtained in Shanghai, many people send home for them, generally both in spring and autumn. It is very doubtful if there is any benefit in ordering them on two separate occasions. Our experience shows that some who do so are absent from Shanghai during the months of July, August, and September, and forget all about ordering their seeds till their return, say about the beginning of October, by which time the seeds should be to hand. It ought to be remembered, too, that none of the seeds harvested in 1907 are obtainable until after 1st January, 1908 and that all seeds supplied by at least the large warehouses during 1908 are those harvested in 1907.

It is generally understood that seeds kept here over the summer lose their vitality. This, however, is very doubtful, as large quantities of seeds are harvested here in spring, kept during the summer, and sown in the autumn when they germinate freely.

There are seeds which will hardly stand the voyage here at all, far less stand being kept right through the summer, but they are rarely in demand. Ordinary garden seeds obtained from a reliable firm in the spring will, for the most part, germinate freely after being kept during the summer. To make success doubly sure a good method to adopt, if it is decided to order all the seeds required in

the spring, is, when making up the seed order, to divide it into two headings, A and B. Under A order all the seeds such as Zinnias, Amaranthus, etc, required for early summer sowing. Have the seeds sent out in two airtight boxes, A and B. Then A can be opened on its arrival and the seeds sown, whilst B should remain sealed up until the autumn, when it is believed the seeds will be found just as good as those freshly imported at that time. Certainly they will give much greater satisfaction than do those which arrive two or three months late, and it is entirely for those who forget to order in time that we suggest this method.

Next week we shall have something further to say under this head.

CALANDAR

If not already seen to, the work suggested last week should at once be taken in hand. To those who prepared borders for fruit trees and are doubtful if it is possible to grow fruit here we may say that we understand that a lady who takes a great interest in her, garden, had a crop of gooseberriest from small bushes last year. Fruits that will grow here are the Logan berry, and probably all the other Blackberries of which there are a considerable variety, Grapes, Paaches, Apricots, Mulberries, Figs, Persimmons Raspberries and probably others.

CONSERVATORY PLANTS

Knowing that a great many of our readers are not so fortunate as to have gardens of their own, and yet are as fond of flowers as any who have, we wish, before resuming the more practical part of our subject to draw attention to those plants whose blooms are for the time being most attractive. We were going to say most deserving of attention, but as that might mean one thing to one person and another to another, we prefer to leave the word attractive, which covers all the ground,

Naturally those to which we refer must at this time of year be under cover, and that to which we will first ask attention is in the Public Conservatory. It is a small bushy plant from eighteen inches to two feet in height, producing at the ends of its branches clusters of clear, gentian blue flowers in considerable profusion. Closer inspection will show that this beautiful bloom has an added beauty in its white veined markings and green bracts. Although introduced to Shanghai only two years ago, the effect produced by it shows that it will soon become as well-known as it will be a welcome addition to our green-houses, especially as blue flowers are extremely rare at this season. The new beauty delights in the name of *Daedalacanthus nervosus*. By any other name it would look quite as pretty and be just as well liked, for the literal meaning of the terrible classic title seems to be the "nervy artificial spiny" one!

One side of the first hot house is almost filled with this together with the red Poinsettias and the white Narcissus. So there are the national colours for the British, the American, the

French, Belgian, Dutch and perhaps some other nations all set out to view in this one house.

Of the orchids, the White Moth Orchid, *Phalanopsis amabilis*, has been in bloom for some time. It is a lovely plant. The flowers grow on a nearly erect spike, and are wonderfully elegant. Only in a hot humid atmosphere is it possible to produce these to any degree of perfection. Another, flowering since the *Phalanopsis amabilis*, is the *P. schilleriana*, purple in colour, a native of the Philippines. It is pleasant to see this family of orchids showing signs of thriving here, for they are looked on as being somewhat difficult to cultivate, though their great beauty is quite a sufficient incentive to all lovers of flowers to make the attempt.

And now to our seeds once more.

Failure on the part of the seeds to germinate is unfortunately by no means a rare occurrence, and invariably when such occurs, it is attributed to bad seed. It may, however be taken as an axiom that high class seedsmen send out perfect, fertile seeds, and that failure in germinating is very frequently due to other causes. Drought, excessive heat, cold, unsuitable soil, seeds buried too deeply, etc, are some of the causes which result in failure.

If we carefully study a seed we shall be able to understand why such apparently conflicting causes may result in death.

Seeds, botanically, are divided into two classes, albuminous and exalbuminous. The names are not a hawu selection but they serve to shopp a distinction. A seed consists of an outer, more or less hard, coat, an inner thin coat, the embryo plant and a storeof food. In albuminous seeds, this food, perisperm, forms the bulk of the seed, as in wheat, the flour of which is the store of food secreted by the parent plant in the seed to provide untriment for the baby plant untilit is far enough advanced to procure food for itself. The embryo is very minute and delicate. In exalbuminous seeds the food is stored up in the cotyledons,

or seed leaves forming a part of the young plant, as for example a Bean seed, which if divested of its coat will be found to divide naturally into two halves except at one end where the two halves are connected by a slender filament. The two halves are the seed leaves, and at their connection, if carefully examined it is possible to discern the growing point and the primary root.

It will, from this, be understood that exalbuminous are seeds less liable to injury by climatic or other external influences than the albuminous ones.

Seeds, in germinating, absorb a considerable amount of water, which water combining with the starch in the food, in company with a ferment, called diastase, bring about complicated changes having a vitalising effect. The chemical changes etc, need not here be discussed, but it will be understood that if once a seed absorbs a quantity of water and the process of germination has commenced, if it is then dried thoroughly, the seed will be killed. Just as an egg, if removed from an incubator or from under the hen, a week or so before hatching time, would soon be useless.

In addition to water, another vitilising element is oxygen ; so if the seed pot or bed be so saturated with water that oxygen cannot get in, failure will be likely to ensue, although as the seed may take some of it oxygen out of the water by splitting up its elements, over watering is not so certain death to the seed as drying off.

GENERAL RULES TO ENSURE SUCCESS

A humid atmosphere, a temperature slightly warmer than that required to grow the plants in. Bury the seeds with a layer of soil about equal to their own size. Small seeds if properly shaded, can be sown on the surface. Soil on which seeds are sown should contain a good mixture of sand and leaf soil. Carefully avoid draught, and with equal care, do not allow the gardener to sprinkle a little water on the surface of the soil, for if a seed pot requires watering at all it wants enough to permeate the whole mass of soil.

FEBRUARY NOTES

HOW TO LAY OUT

As the spring is rapidly approaching when planting, alterations, and laying out of new grounds will occupy the attention of many of our readers, a few hints on landscape work may be found useful. Before laying down any laws or offering suggestions, we may take a brief survey of the typical Shanghai Garden, and see if it has been developed on rational lines, or if it can be improved upon. As far as we have seen, the typical garden, is, for the most part, of the following design. A boundary wall or fence inside of which is a line of trees planted closely together. A shrub and flower border of regular width inside the line of trees, and a path enclosing a more or less square lawn, on the side of which, particularly the side next the house a few flower beds of various shapes are cut out. Thus we have shaded shrubs, flowers, and lawn; but from the artistic point of view we can hardly term it an ideal garden, that is if a garden is what it ought to be, "A thing of beauty and a joy for-ever." Rather, we would term it a playing lawn masked by a boundary plantation. Unfortunately in too many instances, there is not room for anything else, but there are others, and though greatly in the minority there are some people to whom a Tennis-lawn is not absolutely necessary. If a garden is a landscape our readers who favour art will agree, that a picture consisting of the frame, and two lines of mounting enclosing a square splash of green is not artistic, we might even say not a picture. Beauty is of the

infinite and is not entirely material. In landscape, or in nature impressions of mere limitation, and imitation of boundaries cannot develop the infinite beauties of nature, however polished the ignorance, or expensive the work may be. In laying gardens it is important to bear in mind that we are about to reproduce a living picture, an ever-changing picture, where the lights and shades alter with the seasons, each season revealing new aspects; each also having its own attractions and beauties. It is difficult in a short article to say directly how this ideal can be created for each individual has views which approach his own ideals and yet differ from those preferred by his neighbour. Art, however is not entirely a matter of likes and dislikes. It has its laws. Radiation profile, contours, shade, and light. These are points to be considered. To realise and carry out planting so as to comply with all the requirements needs special knowledge, but at the same time, any interested person can with a little forethought lay out a garden, and if he include therein all the features which are specially pleasing to himself, it is much more likely to give greater pleasure than if laid out by one who, though an authority, follows a defined system.

We might as an example take an oblong plot and try and see how we can render it artistic. The plot in this instance is small and only forms one picture when viewed from the house. Placing our house at one end, we proceed with stakes to out-line our plantations remembering that the plantations, should govern the paths and not the paths, as is generally the rule, the plantations. Beginning at the boundaries we should have an undulating border flowing gracefully towards the middle of the plot at the most distant point. We should plant near the house small shrubs, followed by medium and large growing intermingled with small trees gradually rising, (but at the same time avoiding the formation of a sloping bank,) towards, say, in the one corner a cluster of tall Lombardy poplars. At the other corner, say, let there be a large ash tree. Then the middle distance would

consist of a low mass of dark green shrubs, giving the appearance of distance; the other clumps of shrubs would be planted at irregular intervals on the lawn, as though they were out cropping from the promontories as the projecting portions of the plantations are called. The flower garden might be placed near one of the corners, near which could be put a shady seat. The lawn immediately in front of the house should be left open, if not large enough for tennis, as nothing imports greater dignity to the building or to the garden for that matter than an open lawn, the size of which depends on the area of the garden and the size of the house.

FLOWERS OF THE DAY

Heliotrope, or "Cherry Pie," *Heliotropium peruviana*, is, on account of its fragrance, a universal favourite. As at the present moment it is one of the chief flowers obtainable from the market a few remarks on its cultivation may be appropriate. There are two varieties generally grown, one a dwarf form with dark flowers, the other taller with lighter coloured bloom. Cuttings are usually taken between July and September, and inserted in pots, which are placed in a shady position until the cuttings are rooted. When the young plants are rooted they are potted singly into small pots, and placed out in the open, transference to large pots being done as required. They can be taken indoors in November, and from that time can be assisted with a little liquid manure at intervals. The tall form is usually trained on a balloon shaped trellis of bamboo, but if loosely staked with small pieces of the bamboo branches they appear more graceful.

PATHS

With the exception of those in the immediate vicinity of the house, garden walks are best curved, the line of beauty seldom or never being a straight one. Theoretically the swan's neck curve is considered the most perfect, but, unless this or any other beauty is in conformity with the conformation of the ground it will be meaningless and lacking in the beauty which when drawn on paper it appears to convey. Whilst curving paths are the most suitable they should not consist of a series of meaningless curves, as a zigzag path is so obvious an attempt at trying to extend its length concomitantly with the extent of the garden.

Paths should follow the shortest line to the point it is intended that they should go or correctly the plantation should be so arranged as to make it appear that they could not go a shorter way.

This will be more obvious if we again refer back to our remarks on the formation of plantations, where we saw that plantations were to form a series of promontories and recesses. The promontories will force the paths outwards but we must have a reason for making the path curve inwards toward the recesses otherwise the rational path would proceed in a straight line from the apex of one promontory to that of the next. By planting a tree, however, or a clump of shrubs in what would naturally be the direct line, the path has to be diverted, inwards or outwards as the case may be.

After the path has been outlined it should be dug out to a depth of about 9 inches, filling it in with 6 inches of rough material, as broken brick or clinkers, on which should be laid 2 inches of broken stones in pieces 1 inch to 2 inches diameter and surfaced with fine chips and sand.

LEVELLING

Generally speaking all garden sites are required to be raised before any laying out is commenced. If the raising is of an equal depth all over and the soil employed for raising purposes, being of the same kind, levelling and turfing operations need not be deferred for any length of time, as the ground should settle down equally. Under these circumstances, dig over the surface level and roll it once or twice, but it is sheer waste to continue rolling soil raised say 2 feet on the assumption that the roller will settle it down to the finished level. Dig over loosely, roll twice; then to break the lumps, rake over the surface, and proceed to lay the turf. If the soil is dry, don't sprinkle the surface of the soil before laying the turf for by so doing a hard crust will be formed underneath the turf. After the turf is laid it should then receive a thorough soaking with water.

Cost of materials: Turf \$1.00 per fong; levelling the surface of the soil and laying the turf about \$0.25 per fong. Mud for raising between \$1.40, and \$2.00 per fong, Broken Bricks.

Turf per fong \$1.00,

Soil per fong \$1.40 to \$2.00.

Broken bricks per ton \$1.30

2 in. broken road metal per ton \$2.30

1 in. broken road metal per ton \$2.30

Sand per ton \$1.30

Labour, levelling and laying turf \$0.20 per fong.

NOTES ON GERANIUMS

Pelargonium *zonale* the general name of the plants we wish to glance for a moment derives its name from "Pelargo," a stork. The allusion is to the beaklike formation of the ripe seed, and hence the common name "Stork Bill." Probably the name "Geranium" belongs to quite another genus, indigenous chiefly in the northern half of the globe and commonly called "Crane's Bill." The English is from the word, "Geramos," a crane. But in all probability the Pelargonium will still continue to be called by that name which became attached to it in the time of its early popularity.

Since its introduction, about 1710, from the Cape of Good Hope, it has been if not exactly a universal favourite yet sufficiently so to be known as an Everybody's Flower. It is to be found equally in the little plots of the country labourer as in the broader parterres of the country gentleman,

The facility with which Geraniums yield improved forms has led to the introduction of many beautiful varieties of nearly all shades of colour from white to intense scarlet whilst the richest violet and purple shades are and to be found amongst them. As bedding plants their adaptability has rendered them the mainstay of all bedding arrangements and although the esthetic may cavil at the bizarre effect they produce yet the ordinary garden lover would not think a garden furnished if it lacked the favourite scarlet geranium, yellow calceolaria and blue lobelia. This does not apply so much to Shanghai as it does to home gardens, for here during the hot months such plants cannot be flowered, yet during the winter the greenhouses in most instances would not present much colour were it not for the bright displays given by them.

CULTURE

Cuttings can be inserted between March and July in sandy soil. When rooted, pot singly. Shade them during the hot months and get their future positions dug over.

Evergreen shrubs need not be planted before the beginning of April as they are later in starting into growth.

Spring flowering bulbs are showing through the ground. Once far enough through, their growth will be hastened if the surface of the ground is stirred up.

SOME FLOWERS OF THE DAY

COELOGYNE CRISTATA

Three plants of this beautiful orchid have been in flower in the Public Conservatories for the first time, during the past two weeks. This species is generally considered the finest of the genus, and no-one who commences the cultivation of orchids should be without it. It is an evergreen, dwarf in habits, easily cultivated and floriferous. The drooping raceme, bears from five to eight flowers, each three to four inches in diameter. With the exception of the lip which is stained yellow in the middle, and further ornamented with several fringed lines of golden yellow, the flower is white. It is a native of Nepaul and Sikkim where it occurs on the mountains at an elevation of 5,000 to 6,000 feet. The climatic conditions locally suit its requirements when kept in a temperature of about 50 deg. during the winter. The flowers are admirably adapted for shoulder sprays and bouquets and last for a considerable time after they are removed from the plant.

Since the original type, a small, pink flowered form was sent home in 1820, it has been developed from a one coloured more or less insignificant plant into one of the favourite spring flowering, conservatory plants, ranging from pure white to scarlet, and from lilac to nearly blue shades. The size of the flowers has been doubled, altered from an irregular to a regular outline, whilst in addition we have double and semi-double forms; plain

leaves, and fern leaved forms, fringed, serrated, and entire flowers. Its development is a triumph of the florists' art in developing flowers to the standard he has aimed at.

Within recent years the stellata type, the flowers of which are more after the original type, has on account of its more graceful habit become a favourite. The original is found wild on rocks near Ichang, in which region as far as is known it is indigenous. Near to it, also is found another favourite i.e. *Primula obconica*. This latter species is found in moist valleys, and, as already stated, *Primula sinensis* is found on the rocks, exposed to drought and the sun —two facts which may be taken into account by the cultivator.

CULTIVATION

Seeds can be sown during August and September, in a light mould containing a good mixture of sand and leaf soil. After the seedlings have made their first rough leaves, they should be pricked out into pots or boxes, where they remain until they are large enough to be potted into three inch pots. In potting they should never be buried deeply as they have a tendency to rot off at the base of the leaves. By the end of October they can be potted into five inch pots wherein they will flower. A little liquid manure once a week after they begin to show their flower buds will assist in the production of better flowers. Soot water will be found an excellent stimulant, whilst it imparts a deeper colour to the flowers. Seeds may be sown in November, and if the young plants are allowed to flower in the spring, they will, if carefully shaded during the summer, make good plants which will flower about New Year.

CINERARIAS.

Few greenhouse spring flowering plants give the same return for comparatively little cultivation as does the Cineraria. The beauty of its flowers, the variety of its colours combined with the ease with which it is grown render it a general favourite. Time was when high class varieties were named and increased by cuttings as varieties of geraniums are. Within recent years the naming of varieties has been reverted to but the named varieties belong to a class referred to as *stellata*, the varieties of which are much smaller flowered approximating the typical *Senecio cruenta* and the flowers are usually one colour. From an artistic and decorative point of view this *stellata* class is to be preferred although the older class is the more esteemed florist flower. A florist flower in this sense is one that has been developed to a standard of perfection set by the raisers, i. e., size of flower, regular outline, and markings or any other peculiarity that may for the time being be considered perfection and must not be confounded with a flower suitable for floral work. Seeds can be sown about August and from the time they are sown until they come into flower they should be kept as cool as possible, so long as they are protected from frost. A cold frame is all the protection they require and it is possible that therein they grow best. The soil employed for potting should be rich, and after the roots have filled the pot it is proposed to flower them in, they should be given liquid manure at least once every week.

THE CALCEOLARIA.

As there are a considerable number of species and varieties of Calceolaria other than the form usually grown in greenhouses which is the popular form, we employ the term the Calceolaria, to distinguish that class. It originated in a nursery at Epsom about 1830 by the crossing of *C. purpurea*, and *C. arachnoidea*. In 1831, *C. crenatiflora* a yellow form spotted with dark spots was introduced from Chili. This was again crossed with the progeny of the two former species and gave origin to the spotted flowers which are now so evident. The original plants were small flowered with somewhat lanky stems, which through selection and cultivation were transformed into the plants as we now see them. Although they are not so easily cultivated as the Cinerarias, still with care, very fair plants can be grown here when the short season they have in which to perfect their growth is considered. Generally they should receive the same treatment as is given on Cinerarias excepting that greater care in watering has to be observed, as if given too much water they speedily damp off.

CROCUS.

The bright sunshine we have experienced during the past week has caused this delightful harbinger of spring to unfold its lovely blossoms, reminding us that the flowery season is rapidly approaching and, alas, the tropical season also. Crocuses are natives of South Europe and Asia Minor, consequently they all are tolerably hardy, and with a few exceptions all grow freely in the open without any protection. Although the genus is a large one, including over seventy species, the forms generally grown are nearly all varieties of *Crocus vernus*, commonly called Dutch Crocuses. The typical flower of this class is purple, but through cultivation, and crossing, it now includes numerous shades between white and purple, usually sold under various names, as Sir Walter Scott, Prince Albert: etc. Other common species are *C. aureus*. "The Dutch Yellow". *C. biflorus*, the Cloth of Silver or Scotch Crocus, and *C. susianus*, the Cloth of Gold Crocus.

With the exception of a few of the rarer species Crocuses are extremely cheap, which combined with the little attention they require should ensure their cultivation on a lavish scale; moreover their flowers are so distinct as a class that with perhaps the exception of Colchicum there are no other flowers with which they are likely to be confounded.

POT CULTURE.

As soon as the corms are received in the Autumn they should be potted, placing eight corms in a six inch pot, give them a good watering. Then plunge the pots in a bed of ashes, where they may remain without further attention until they begin to show above the soil when they can be placed in a window, or greenhouse to flower. A method of planting sometimes adopted is to plant five or six corms around the side of a pot containing a hyacinth bulb. Though useful as pot plants, it is in the open that they show to greatest advantage.

The ideal spot, is on a mound underneath a deciduous tree, in masses of one or two colours. One usual characteristic of the Crocus deserves mentioning; that is, though they shut up their blooms early in the evening and do not open until the sun rises next morning, yet if placed under a light in a room their flowers will expand and remain open for some hours. Snowdrops (*Galanthus nivalis*), are amongst the earliest of spring flowers, their chaste lovely blooms being great favourites with all classes, and deservedly so, as in their season a nosegay of snowdrops with a few leaves of ivy form an ideal adornment. As with the Crocus the best results are obtained by planting them in a shady position in the garden and leaving them alone. They can however be grown in pots, and on cold wet days in the spring they are welcome, either in the house or conservatory. Another plant which has been showing its flowers within the past week is the

“Glory of Snow”—*Chionodoxa*. This is a really beautiful and charming bulbous spring flowering plant, which should be largely grown. It is a *Scilla*-like plant with flower stems bearing six or eight bright turquoise blue flowers, with pure white centres. It is a little difficult to establish, but once established it multiplies freely and if left undisturbed forms in time a beautiful blue carpet.

SPRING FLOWERING BULBS

We would like to draw attention to the wealth of flowers that can be obtained from spring flowering bulbs and a few other spring flowering plants without a heated greenhouse. To obtain a good display of flowers grown in pots in spring all that is required is a cold frame, a small space in the back yard where pots can be placed, and if possible, a Wardian case.

In the autumn as the bulbs come to hand they should be potted, given a good soaking of water and plunged in a bed of ashes, the pots being buried to a depth of not less than two inches, here they should remain until, on examination, the growing points are seen above the surface of the soil in the pot, when they should be placed in the cold frame, and kept slightly shaded for a few days until they have become green.

Air should always be admitted to the plants daily, excepting during extremely cold weather, but the frames should be closed early in the afternoon so as to retain as much as possible of the sun heat, and a covering of straw, or other protecting material should be placed over the frames at night, to ensure that frost does not touch the plants. As growth proceeds the most forward plants can be brought into the house, where they will soon come into flower. It is in the rooms that Wardian cases are so desirable. Most spring flowering plants resent smoke, gas and dust, consequently, when taken into a room, if placed in a Wardian case, which under general circumstances would

contain a few ferns or other green plants, they grow better than those left standing about the room exposed to all the usual conditions.

The following is a list of plants suitable.

BULBOUS

Snowdrops	Tulips early
Crocus	„ large flowering
Chinodoxa	and Darwin or May-flowering
	Tulips
Musk Hyacinth	Crown Imperials
Roman Hyacinths	Narcissus
Hyacinths	Jonquils
Liliums	Bulbous Iris
Scillas	Erythroniums or Dog's tooth violet.

FIBROUS ROOTED

Cinerarias	Calceolarias
Violets	Daisies
Primroses	Pansies
Polyanthus	Wall flowers, single and double
Alyssum	Forget-me-not
Astille	Bleeding Heart

The above list of inexpensive plants furnish an interesting and beautiful display, from the crocus which, by making a selection, may be had in flower in January up to May. Moreover since they all as a class prefer natural treatment, disliking for the most part artificial heat, anyone with the accomodation specified may grow plants which will be equal to those grown by those possessing large gardens and conservatories.

The different plants, their varieties, suitable selections of the same and cultural recommendations will be treated of in subsequent articles. In the meantime with reference to bulbous plants, one general rule may be laid down which applies to all bulbs and cannot be too frequently reiterated, i.e. always allow the foliage bulbs to decay naturally. More are ruined by the tidy gardener by cutting away the foliage as soon as it shows the

least sign of decay, even as soon as the flower is past, than by any disease, or accident. Remember always that the leaves, after the flower has decayed, have to accumulate the food from which the next year's flower is produced.

TULIPS

Of the Spring flowering bulbs none can vie with the tulips in their gorgeous display of colours, comprising as they do almost all shades excepting blues and purples. Although, generally speaking, the grower finds the selection of suitable varieties a difficult task having so many varieties to select from, yet those numerous varieties are but the progeny of a very few species. If all the sixty species of *Tulipa* had been developed on the same lines as has the species *Tulipa gesneriana* the resulting progeny would have probably been beyond computation, and the task of the grower in selecting his varieties an impossible one, for all the members of the genus are lovely, some of the species are really gems, though unfortunately none are so easily cultivated as the ordinary Florists varieties. Tulips are generally classed under three heads, early, mid-season and late. The early tulips are for the most part the progeny of *T. suaveolens* and *T. praecox*. The earliest belonging to the Van Thol section are most suitable for cultivation in pots, and especially for forcing early into flower.

The mid-season section comprises those most largely grown for planting out in the garden, where in bold masses and given a dry April they produce a brilliant effect. In fact, in no season of the year do the flower gardens in Shanghai appear so effective as they do early in April. Suitable varieties are numerous, but the following is a good selection.

Chrysolora, yellow.

Joost Van Vonal, crimson and white.

Keizers Kroon, crimson flaked yellow.

Moore, orange yellow.

Cottage Maid, pink and white.

LATE FLOWERING

Darwin or May flowering varieties are more graceful in their habit having considerably taller stems than the foregoing. Although very desirable they are unfortunately somewhat more expensive. The distinction between a Darwin and May flowering tulip is merely one of degree. Darwin's being selfs, namely, one coloured. When a seedling tulip flowers for the first time, it usually is a (Darwin) one coloured flower, but in course of time, sometimes a considerable number of years, it breaks, and is then classed as a Bizarre Byliloemen or Breeder, according to the way the coloured markings are arranged.

CULTIVATION

This is very simple; plant the bulbs in October at a depth of about 4 inches: they require no further attention except weeding the beds, until they have decayed, when the bulbs may be lifted and stored in a dry position. When in flower, growers should make a note of the most satisfactory varieties for future planting.

DAFFODILS.

Under this name we will include the commoner and more generally grown forms of *Narcissus*. Though less showy than the gaudy Tulip, *Narcissus* may be considered the gem of spring being at this season what roses and lilies are in summer. Although the genus includes between two and three dozen species, yet so numerous are the hybrids and varieties, that to arrange them in anything like a natural sequence is work for a specialist. For ordinary garden purposes they can be arranged under three headings and as those headings include most of the best kinds further elaboration appears needless.

THE FIRST GROUP

of which the common yellow English daffodil is typical, is the long trumpet or, to become more technical the "Magni coronata group" in which the corona, or trumpet, is longer than the petals (properly sepals) This is the large flowered form so commonly grown, of which some of the best varieties are Emperor, Glory of Leyden, and M. J. Berkely; entirely yellow. Those having light coloured and yellow trumpets are Empress sepals and Horsefeildi.

SECTION II

“Medio coronata”, or medium-sized corona, in which the petals are as long as the trumpet. The Peerless daffodil, “*Narcissus incomparabilis*,” is the type. This class though smaller flowered includes a number of more graceful forms, of which some of the best varieties are Sir Watkin “*Barri conspicuus*.” Mrs. Langtry Stellata, and Magdalin de Graaf.

This section is also called the chalice crowned daffodil, and amongst its numerous varieties there is a considerable difference in size and variety of colour. For cutting purposes it provides graceful flowers which can be most effectively arranged in vases.

The third section is the “*Parvi coronata*” or small crowned. In this section the cups are small, as in the Chinese narcissus. The most popular of this section, if not indeed the most beautiful of all the daffodils, is the Poet’s, or Pheasant’s eye, a beautiful white flowered variety, the upper portion of the cup being tinted with a shade of scarlet. This is erroneously supposed to be the Narcissus of the Greek poets.

The classical Narcissus of Homer and other poets, both Greek and Roman, however, is the “*Poly-anthus narcissus*” of which the Chinese narcissus is typical. Amongst the other species which somewhat differ from the real daffodil but are by the way, especially for small gardens or in pots, very interesting and beautiful, mention may be made of the Hooped Petticoat Daffodil, both white and yellow flowered varieties, the Jonquils, and “*N. Triandrus*”, or “Ganymede’s Cup”, the best form being that known as “Angel’s tears.”

Although there is such a thing as an expensive daffodil, for instance, a variety, called Peter Barr, which is a pure white large flowered variety, bulbs of which a few years ago were sold at 60 guineas each, yet ordinary kinds are cheap, costing only a few shillings per 100 bulbs.

Every one can grow daffodils; all that is required in the way of cultivation is merely to plant them and leave them alone. In fact when it is possible to leave them untouched for three years the best results are obtained. Nothing is prettier than daffodils naturalised in the grass, in groups on the lawn under trees, on banks, or in the foreground of shrubberies, planted in bold groups. Shanghai Gardens, however, are, unfortunately, too small to allow of scattering daffodils, gems though they be, in an artistic manner over the lawns. Consequently the majority of the bulbs are planted in beds and have to be removed during summer to make room for other flowering plants.

After the leaves begin to decay the bulbs can be lifted, dried and stored away for the summer, and again planted in the autumn. Care must be taken that the bulbs are ripe before they are lifted and that they are properly dried before storing. During moist weather in the summer they should be examined and any bulb showing signs of decay removed.

WALLFLOWERS.

The botanical name of the Wallflower is *Cheiranthus Cheiri* derived from "cheir," the hand and "anthos" a flower, in reference, it is supposed to the custom of carrying the wallflower in the hand as a nosegay, a charming custom, happily as much in vogue at the present time as it was by the damsels of the 15th century about which time it was named. It belongs to the order Cruciferae, or "Cross flower" family, the members of which are distinguished by having four petals inserted so as to form a cross. To the same family belong a number of, spring flowering plants including the cabbage, fields of which in the immediate vicinity, at present, form beautiful pictures of golden flowers, which though common are not to be despised. The common name "Wallflower," was probably given to this plant on account of the profuse manner in which it grows on old walls. In no other situation does it produce flowers so freely, as when grown on a dry stone wall. Though beautiful, it is undoubtedly for the sweet fragrance of its flowers that it is so much esteemed, and as it is adapted for cutting for decorating tables and rooms, an ample supply should be grown. If there is not sufficient space in the flower Garden a few plants for cutting from can easily be grown in the Kitchen Garden. Although there are numerous varieties varying in shades, from pale yellow through dark red to nearly purple hues, dwarf, medium and tall varieties, the most desirable forms are the medium sized dark red, and yellow varieties. Double flowered varieties are obtainable, but chiefly on account of their stiff appearance are not largely grown.

CULTIVATION.

Seeds can be sown on a shady border in September, When the young plants have made about an inch they should be transplanted into beds six inches apart, where, if well cared for, they form nice plants suitable for planting in the flower beds in November or December. After they have finished flowering a few of the plants might be planted in some out of the way place. The majority of them will come through the summer, and the following Spring will yield a greater quantity of flowers suitable for cutting than the young plants will. Although not a common practice, except with the double flowered forms, wall-flowers can be grown from cuttings of the young flowerless shoots inserted now.

FORGET-ME-NOTS.

These undoubtedly should be grown in quantity on account of the amount of sentiment and the many pleasing associations attached to them, even were they less beautiful than they are. As it is, however, they are really beautiful flowers, whose delicate blue blooms harmonise so well with the delicate green of budding trees and verdure at this season. The ideal situation for them, is in shady borders planted with a mixture of trees and shrubs, and other flowering plants, in woodlands, rockeries, and as edgings to beds and borders. Forget-me-nots are varying species of *Myosotis*. The Forget-me-not, is supposed to be *Myosotis plaustris* common in ditches and by streams in Britain and parts of Europe. This along with *M. aploetris* and *M. dissitiflora* are the forms most generally grown in gardens. Their cultivation is like that of the Wallflower.

GARDEN WORK.

Seeds of Summer flowering plants, if not already sown, should be immediately, and it is probable owing to the cold Spring experienced up to date, that seeds sown now will be ready for planting as soon as those sown two or three weeks ago. A selection of plants suitable for flowering in the Summer are Cocks-combs, Celosias, Balsams, To Forenias, Creeper, Morning Glory, small Flowered Sunflowers, and Vincia roses. Cuttings of Chrysanthemums for planting in the flower beds in the Autumn can now be inserted. Insert also cuttings of Geraniums, Hydrangea, Plumbago, and Lantanas. In the Kitchen Garden beds should be prepared for growing salads, of which plants such as Lettuce and Radishes are very desirable during the summer, when clean grown Seeds of salads from now onwards can be sown every two weeks.

FLORAL DECORATIONS.

The employment of flowers as personal decorations has been in vogue almost from time immemorial. Mankind of nearly all ages and climes has had a predilection for giving flowers as tokens of love and honour, whether as the laurel wreath to the Roman hero, the sprays of the Hawaiians, or the simple nosegays of our grandmothers. Although in this sense the employment of flowers as decorations is an ancient custom, it is only recently, that, at least the Anglo-Saxon has developed floral decorations into an art. Like all operations calling for an artistic sense, decorations are to a certain extent governed by certain canons, and subject to the vagaries of dame fashion, and perfection is only attained by application. There are some to whom any artistic expression appears to come natural, and who can artistically arrange flowers without any apparent forethought, but they are few, and even they like unto the majority, to make perfection must experiment.

DINING TABLES.

In formulating a scheme of decorations for tables the first essential is suitable receptacles for the flowers. Flower vases are to be obtained in numerous designs, but a large number of them have been made to form ornaments in themselves and not to enhance the flowers. Such vases are undesirable; they appear aggressive, and attract the eye to themselves, instead of combining with the flowers forming a harmonious whole. Styles to be avoided are tall central ornaments having 3 to 6 trumpet-shaped vases arranged around the central one: large massive ones which form, when filled, a large bunch of flowers 15 inches high and nearly as much wide. So with highly elaborated ones. One of the best stands for the centre of a table, consists of a glass dish as a base, a slender glass stem 12 to 15 inches high, forming at its summit a trumpet shaped vase. This and various modifications of it are known as the March stand, and for especially light and spiky flowers is nearly ideal. Vases however are largely governed by the kinds of flowers employed. Thus a rustic basket filled with bronzy chrysanthemums and the bronzy green leaves of ivy, is as artistic an arrangement of flowers as could be desired. Roses rarely look better than when arranged in a bowl, whilst pansies are best in a flat glass. Whatever form of vase is employed, it will be found that vases of clear or milky white glass, and plain silver ones give most pleasure.

THE ARRANGEMENT.

In arranging the flowers in the vases it is a common practice to place the flowers in position first, frequently in a more or less formal manner, and then tone down by adding foliage, with the result that there is too much of both. This method we incline to think is a mistake. Nature herself first provides the foliage, then the flowers, and we venture to suggest that in this as in other things she is a good tutor. After the moss or other material employed for steadyng the flowers is placed in position, the ferns or other foliage employed could be inserted, and not until a sufficient quantity of foliage is in position should the flowers be added. It will be found that they are then more easily arranged in an artistic manner, and that it is easier to tone up with flowers than to tone down with foliage.

FLORAL DECORATIONS

Before completing our remarks on the decoration of dinner tables we should like to draw attention to the system of doing the table with plants, to which a few cut flowers, may be added. The employment of plants has various recommendations, not the least of which is that the same material can be employed frequently. Assuming a dinner table for ten people to be decorated with plants and cut flowers, for the centre piece we would select a small palm in a four inch pot, one with arching leaves would be preferred. Placing the palm in a soup plate we would mound all round the pot, out to the brim of the plant with wet sand, covering the whole with nice green moss (*Selaginella*). Two or three plants of *Gloxinia* which had been grown in three inch pots, could be knocked out and planted in the sand, the dark lustrous leaves of the *Gloxinia* resting on the light green moss forming a charming combination, while the brilliant flowers of the *Gloxinia* would give ample colour. If it was desired to further elaborate this arrangement, a few small leaves of *Caladiums* might effectively be inserted, and a few fern fronds laid at intervals about the mound. Plants of a similar size of *Primula sinensis*, or in fact any of the primrose family, are very suitable, as also are small clusters of snowdrops arranged with ivy, violets, and a large assortment of plants. When suitable small plants for inserting in the mound are not available, they can effectively be replaced by cut flowers, arranged so that they form a low mound from which the central Palm springs. The corner dishes might consist of one or two of the same plants as selected for the central mound, placed in a tea saucer, mounded round with moss on which a few small flowers might be laid.

THE BEST EFFECT

An endless supply of material will occur to the decorator once a commencement has been made. Our remarks are, it is understood, for tables with only a white table cloth. Where silk or other coloured material is laid on the cloth much greater care has to be observed in the selection of suitable flowers. And whilst we consider that a white table cloth alone gives the best effect, we do not disparage the employment of coloured material, but would warn decorators against employing green, purple, or certain shades of blue.

DRAWING-ROOM, BOUDOIR, ETC.

The chief mistake frequently observed in the filling of vases for use in rooms is the very artifical manner in which they are arranged, being really bouquets inserted into receptacles, and the lavish use of maiden hair fern. Though this fern is almost ideal for all floral arrangements, and can hardly be dispensed with in the making up of bouquets and dinner tables, it can to advantage be left out of the receptacles arranged about the drawing-room, where the keynote to enjoyment depends upon the natural and simple way the flowers are arranged. Of suitable foliage there is no lack. A good example of what we mean was afforded at the Flower Show, where the combination of dark maple leaves and La France roses arranged by Mrs. Noel was nearly perfection in its harmonious blending, as was also the combination of dark and coppery foliage in the First Prize vase. Other combinations are, large leaved Berberis, with Forthysia, Pink Lycoris with Funkia leaves, Tea Roses with their own reddish brown foliage, Arums with their own foliage and a few sprays of large leaved laurel, Variegated Acuba and winter Sweet, (Lay may). A much greater variety of receptacles can effectively be employed in the ornatation of the drawing-room than can on tables, and the great variety of flowers available calls for various shaped receptacles, to show them off to greatest advantage. Amongst the following a suitable selection can always be had—Leeds-ware bowls, cut glass vases, glass tazza, Venetian glass, Italian and Oriental earthen-ware, silver, bronze and pewter bowls and vases; even old ginger jars furnished with suitable material can be made very artistic.

ROSES

The Rose, Queen of Beauty and emblem of strength, the pride of all patriotic Englishmen and universally considered the Queen of Flowers, to which title a brief survey of English prose and poetry reveals how intimately it is connected with the home life and tender passion. The Rose, or properly roses, for the species and varieties are legion, belongs to the family Rosaceae to which belongs also the Apple, Pear, Hawthorn, Plum, Peach, etc. Botanically its chief distinguishing feature is its fruit Hips or Haws. To the ordinary individual such distinctions are of little moment as he has no difficulty in recognising the ordinary rose flower from that of say an apple. There exist, however, forms of roses which it is not so easy to distinguish from the flowers of the Blackberry.

THE VARIOUS SPECIES

Amongst the species which have given to us the Garden Roses of to-day, a few merit our consideration, inasmuch as they show their evolution and development.

Rose Damascena, a native probably of Syria—but as it has never been found wild its origin is doubtful—crossed with Rosa Indica, a native of China, gave rise to the Hybrid Perpetual Roses.

Rose Centifolia, and its form Gallica, is the parent of the Cabbage, or Provence, and Moss Roses. It has also been crossed with the preceding species, and consequentially played a part in the development of the Hybrid Perpetual.

ATTAR OF ROSES

From Rosa Damascena, The "Damask Rose," and Rosa Centifolia, attar of roses is chiefly distilled. They also contributed chiefly to the pot pourri so beloved by our grandmothers.

"Long, long may my heart with such memories be filled,
Like the vase in which roses have once been distilled,
You may break you may shatter, the vase, if you will,
But the scent of the rose will hang round it still.

Tea Roses are derived from the inter-crossing of the varieties of Rosa Indica, crossed with Hybrid Perpetuals. This species gives rise to the favourite garden flower of to-day, the Hybrid Tea.

Sweet Brier, fragrant as the breath
Of maid beloved when her cheek is laid
To yours, in downy pressure, soft asleep,

is a form of Rose Rubiginosa. Noisette Roses are derived from Rosa Moschata and Chinese Rose. The Pillar Roses of which Crimson Rambler is a good example are derived from Rosa Multiflora, the common brier rose found wild in the vicinity of Shanghai.

From the foregoing it will be seen how much rosarins are indebted to China for all that is good in Roses, Rose Indica entering into all the forms.

PROPAGATION OF ROSES.

Roses are generally increased by cuttings, budding, and grafting. When there is a stock of plants available, from which cuttings can be taken, the majority of garden roses are best increased by this method, and the roots consequently do not worry the grower by sending up suckers.

Briar shoots. Early in November, or in March, cut off medium strong shoots of the current year's growth. These shoots can then be cut up into lengths of about 9 inches long, the basal end cut clean across with a sharp knife immediately below a leaf-bud. Insure the cut being square across, not slanting, otherwise any portion left below the bud will decay and probably kill the cutting, as roots are rarely formed except just at the bud. If, as usual, the cutting is to be inserted in the open, prepare a border, then cut out a trench about 6 inches, in the bottom of which place a layer of sand. Insert the cutting to a depth of four inches, with its basal end amongst the sand, and press the soil firmly around it to ensure that it cannot move. If they are carefully taken nearly every cutting will root and the following year can be planted in the flower border.

Though not so usual, cuttings of young growing shoots are frequently rooted. The young side shoots, four to six inches long, make the best cuttings. Early in August they can be removed from the parent plant and inserted round the side of a flower pot. After insertion the pot should receive a good watering and be placed in a close shaded frame until the cuttings are rooted.

BUDDING.

This is the most popular method of increase practised by Nurserymen. The chief reason for its popularity is due to the fact that from one plant it is possible to raise hundreds which, where space means money, and a stock of a hundred or more varieties, has to be kept on hand, is a great consideration. Certain varieties owing to a peculiar weakness give better results on the briar root, as for example Marechal Neil, which on its own roots is liable to canker. Owing to the adhesive nature of some soils it is found that the stronger briar roots are better able to penetrate into it and consequently draw therefrom a greater amount of substance. These, however, are exceptions, and for the majority of Roses those on their own roots give most satisfaction.

AN INTERESTING PROCESS.

The process of budding is simple and interesting. The Briar roots are available, having been raised from cuttings inserted the previous year, (Seeding Briars are rarely employed except for special varieties). Towards the end of June, from the varieties it is intended to increase, remove plump leaf buds (from near the base of the shoots) having a small section of the wood attached. This wood is removed by an upward jerk when the bud, consisting of a small portion of bark, a bud and leaf, half of which should be cut away, is ready. The bud being prepared a T shaped cut is made in the back of the Briar, as near the root as possible. The bark on each side of this cut is gently raised, and the bud inserted underneath. It is then fastened by a piece of cotton string to prevent it moving, and in about three weeks the union is effected. After the bud begins to grow, the shoots of the Briar are removed and by the following spring the young plant is ready for planting.

THE YOUNG PLANTS.

Borders for growing Roses on should be dry to a depth of at least two feet, and a good dressing of stable manure incorporated in the soil. Dig over the beds in the autumn and allow them to remain in this state till February when a dressing of lime spread over the surface of the bed can be applied. Early in March the young plants should be planted, and after they commence to grow the beds, at intervals of three weeks, will benefit by a dressing of sulphate of ammonia. Three shoots are sufficient for a young plant to perfect; if more grow they should be removed, as three moderately strong shoots will form a better ground-work for the future bush than can be obtained from a mass of weak shoots.

ARCHES AND ARBOURS OF ROSES.

Under the rose, or resting in a rose-bower, is synonymous with all that is sweetest and most satisfying in repose on a balmy summer's day, and no garden is complete without one of those delightful fragrant seats. Roses adapted for this purpose are generally collectively classed as climbers, of which there are numerous forms and varieties, but which from a cultivator's point of view may be classed under two headings, Climbers and Ramblers. Of the first class, *Gloire de Dijon* is a good example making long strong vigorous and branching growths, the annual shoots of which are cut back in the Spring to within a few buds of the main stems and branches. The second class or Ramblers, is typified by the *Crimson Rambler*. In this class the flowers are produced on the previous year's growths, and the only pruning required is the removal of the shoots shortly after they have flowered, to ensure that all the strength of the plant is devoted to the young growths. The stronger the growths made the more prolific will the flowers be produced the following summer. Roses of this class should not be cut back in late Autumn or Spring.

WINTER FLOWERING.

Roses, as we have observed, are so highly esteemed, that especially for personal decorations, when they are obtainable, they are given preference. To ensure a supply of roses during the winter months entails considerable cultural abilities, and especially suitable glass-houses, the latter being the most essential. By, however, growing them in pots the flowering season can be considerably extended. Early in November the roses may be dug out of the beds, and potted up, taking care that the pots employed are not too large, as success depends greatly upon the pots being well filled with roots before being subjected to heat. After they are potted they should be well pruned, and the pots plunged in ashes, leaving them exposed for a time. Towards the end of December introduce them to a frame having a night temperature of 45° to 50° Fahr. The temperature can be increased gradually as growth proceeds until it is about 60° Fahr. at night. When the plants come into flower they can be placed in a conservatory where they remain until the flowers are finished. After this they can again be removed to another house or frame and encouraged to make good growths, which will ensure better and earlier flowers the following year. The object of growing them in pots is that then they need only occupy the conservatory when they are in flower, (and in passing we may note that conservatories, to be a success, should have growing houses of four times the capacity of the conservatory, to keep a constant supply of plants in flower therein.)



GROWING UNDER GLASS.

The best method of growing roses under glass is by planting them out in beds specially prepared for growing them in. In other words they are treated exactly like roses are in the flower garden, only in a house instead of in the open, and made to flower at a different season. Where cut roses are in demand, and a house can be set aside specially for them, planting out is the correct method. But unless the house can be reserved exclusively for their culture it is little use attempting it, for to fill up all spare corners with the usual green-house assortments and try to grow them all together, means failure.

TREE OR PERPETUAL FLOWERING CARNATIONS.

These are so termed because each growth when it has attained to a flowering stage, flowers irrespective of season. The growths of border carnations all attain their flowering period at the same time, and once flowered they are finished for the year. Until a few years ago tree carnations were only grown in private gardens, and even then to no great extent, their flowers being considered no class unless the margin of the petals were entire. Within recent years a great impetus has been given to carnation culture for winter flowers, by the introduction from America of a form raised there by crossing the typical tree carnation with the border varieties. This new variety, although in form and outline it did not agree with the florist's idea, was so graceful, free flowering, and adaptive that it established a fashion of its own, and to-day is the Queen of Carnations. Acres upon acres of glass-houses in Europe and America have been erected wherein to cultivate it and new varieties are almost weekly being thrown on the market. For ordinary purposes, like the rose, it is most conveniently grown in pots. Cuttings of the young shoots are taken in February, inserted in sand in a close frame, and when rooted they are potted into small pots, from which about May they can be transferred into 5 or 6 inch pots. After this potting they can be stood out in the open until the Autumn, when they should be taken into the greenhouse, where they will flower during the dull days of winter. For cut flowers in quantity and

probably for quality the best way to grow them is as already suggested for roses, i.e., planting them out in a house devoted entirely to them.

Malmaisons. A very large flowered form of tree carnation, which produces its flowers in early spring as a rule, but can be made to flower as a rule at various seasons.

FAVOURITE FLORAL GEMS.

Roses, Lilies, and Carnations, by the frequency their names are associated, leave the impression that they rank as the favourite floral gems. The mere mention of the trio imparts a vision of beauty and fragrance unexcelled. Though unlike the rose and lily, the carnation has not formed the subject of poetical and sentimental themes, yet as a purely decorative flower it probably, especially with the fair sex ranks equal with any.

Botanically it is known as *Dianthus caryophyllus*, its common appellation Carnation being said to be derived from flesh coloured. A typical florist's flower it has been altered from time to time to suit the vagaries of fashion and the ideals of florists, who have classified it into various sections, as Flaked, Striped Selfs, Bizarres, Picotees etc. The chief distinction between a Carnation and a Picotee is that the former is one coloured, or if of two or three colours they are in flakes or stripes along the petals, whilst the Picotee has the outer edge of its petals surrounded by an edging of colour distinct from the colour of the centre of the flower. The chief forms of Carnations are border Carnations and Picotees, Tree or Perpetual flowering Carnations and Malmaisons. Border Carnations as the name implies are chiefly grown in beds and borders. The best forms are either one coloured, or have a ground of one colour flaked or striped with another. The flower is circular in outline and the petals are entire, i.e., their margins are not serrated. They are in flower from the end of May till about the middle of June. They are propagated by cuttings consisting of young growths about 3 inches long.

LILIES.

"Behold the lilies how they grow; they toil not, neither do they spin, yet Solomon in all his glory was not arrayed like one of these," is a dictum founded on high authority. In these days of close research, under which many old traditions are being cynically exposed, it may be averred that the beauty of Solomon's apparel was, from the present standard, of no great glory but there can be no question about the beauty of the lilies. The genus *Lilium* comprises over fifty species, forming five well-defined groups, but for the present we will confine ourselves to a description of those species which are grown successfully in Shanghai, referring to them in their order of flowering.

THE MADONNA.

Lilium Candidum the "Madonna Lily," so called on account of the spotless purity of its flowers, and their fragrance, this is the lily that so frequently figures in the paintings of Italian artists, it being a native of southern Europe. The bulbs of this species should be planted early in the autumn as it makes a few leaves before the winter, and flowers about the middle of May. Lilium Concolor—this species flowers about the same time as the above. It produces slender stems about 12 inches high bearing a few bright red flowers. There are various well-marked varieties of it, some having dark spots on the petals, others being almost yellow. In the vicinity of Wei-hai-wei this is found growing profusely on the hills, as also in various parts of Japan. Lilium Longiflorum, is frequently referred to as the "Easter lily" because it is forced into flower in very large quantities at that period, both in Europe and America, forming then the chief feature of all church decorations. It undoubtedly is, by a long way, the lily most frequently grown. The exports from Japan of this species annually amount to millions of bulbs and in parts of Japan its cultivation is very important, forming a staple industry. There is no doubt that it can be equally, in fact is, as well grown in China as in Japan, and it is probable that in time the Chinese will attempt its cultivation with good results. The bulbs are usually planted between the months of October and December. Early in the spring they begin to send forth their stems, which produce flowers about the beginning of June. The flowers are long, trumpet shaped, pure white, and very fragrant, produced on the summit of stems 2 to 3 ft. high. It may be said to be both the easiest grown and most desirable member of this family.

LILIUM BROWNII.

This species closely resembles the above, its flowers being larger, and slightly more funnel shaped. It is a very variable lily, and amongst a collection of mild bulbs shows sufficient variation both in time of flowering and flower to warrant the assumption that amongst them there are various natural hybrids between *L. Brownii* and *L. Krameri*. The typical flower is white on the interior and dark on the exterior, stems fully 3 feet high, producing one to three flowers. Some forms are almost pure white and others almost entirely yellow. It is in flower from June to July. The typical *L. Krameri* very closely resembles the above but has rose and pink coloured flowers.

Lilium elegans. During the month of June the various forms of this lily are in flower. Its flowers are borne erect in clusters on the apex of a stem 18in to 2' 6" high. The varied forms embrace a considerable variety of colours, orange red to shades nearly of purple. A native of Japan, where it is grown in large quantities, especially for export, it is one of the easiest grown lilies and unlike many does not deteriorate after being grown for a few years. *Lilium Batemanii* is a variety of this species and probably the best form.

Lilium Tigrinum. The Tiger Lily, so called because of the dark spots and stripes on the petals. This is an old favourite, easily and universally cultivated.

Lilium Speciosum, or *Ianifolium*. The beautiful or lance-leaved lily is also a native of Japan and parts of China. Either for pot culture or growing in the flower beds it is very desirable,

and next to longiflorum is the lily which is most frequently grown. Its re-curving flowers set at right angles to the stem are produced in great profusion and last for a considerable period. The flowers vary from pure white through various shades of rose to scarlet markings. A form which grows on the Kuling hills has the brightest markings of any.

THE QUEEN OF LILIES.

Lilium Auratum. "The golden rayed lily of Japan." This is frequently termed the Queen of Lilies, and where it thrives, a bed of well grown plants is one of the most magnificent sights. The stems attain a height of from 5 to 10 or more feet, the upper two thirds of which are covered with large flowers, each bloom measuring over 6 inches across, whilst frequently a stem produces as many as 20 or 30 flowers. Occasionally one hears of a stem producing over a hundred flowers, but that is only rarely. Some of the rarer forms of this lily are very expensive, costing \$11 or more per bulb, but the original type which gives the best results can be purchased comparatively cheap.

Lilium Henryi. This lily is named after Dr. Henry at one time of the I. M. Customs Service and now Professor of Arboriculture in Cambridge, who first discovered it in the vicinity of Ichang, to which it is endemic. Within recent years the bulbs of this species have been sent home from Ichang in large quantities by J. Veitch and Sons, botanical collectors. It is an easily grown lily, one which when once obtained can easily be grown from seeds.

Lilium Leitchlini. This closely resembles *tigrinum* but has a more slender growth and flowers later.

CULTIVATION.

Lilies, generally speaking, once established require no further attention, in fact frequently give best results if left undisturbed for a few years. They all enjoy a fairly well drained position and a slight shade, and consequently give excellent results when planted amongst shrubs. In planting the bulbs, pits about a foot square and 18" deep should be dug out. Place a layer of turfy loam, well mixed with leaf soil and broken bricks, over the bottom of the pit, to a depth of 9 inches: on this plant the bulbs, surrounding each bulb with a coating of sand, and fill in the pit with ordinary soil. Forms like *Longiflorum* which produce roots from the stems should have rich soil placed over those stem roots.

THE PENTSTEMON.

This is a beautiful and useful early summer flowering plant, suitable for bedding out, which within the last few years has become more popular. Its name is derived from "pente," five, and "stemon," a stamen, as its flower has five stamens distinguishing it from the other members of the natural Order Scrophularinear, which have as one of their characters only four stamens. The progenitor of the present race of Pentstemons was *Pentstemon Hartwegii*, a species producing dullish crimson purple flowers. By careful selection, intercrossing, and cultivation over a period of years, the florist has evolved from a small flower, dullish coloured, a race of numerous varieties embracing a perplexing variety of colours from pure white to purple, with additional size and more robust growth.

In Scotland especially, where it is largely cultivated, the varieties are named like varieties of roses, and are propagated by means of cuttings. Excepting for planting in formal gardens, when one shade of colour may be desirable, it is unnecessary to adhere to special forms, as a packet of seeds will yield a charming variety of forms, producing a variety of flowers, in various shades.

CULTIVATION.

Sow the seeds in September, or April, the former being the better time, when they will be ready for planting in the flower beds in November, and if generously treated will begin flowering towards the end of May, and continue in flower till July. Any special forms it is desired to keep distinct should be propagated by cuttings. The young side shoots from near the base of the plant form the best cuttings, and if inserted in September in a shady border will be ready for planting in their flowering quarters in November, and will flower a week or more earlier than the seedlings.

PENTSTEMON BARBATUS.

This is a hardy perennial, attaining a height of about four to five feet, very unlike the ordinary pentstemon. Its stems are much branched and produce a great quantity of its small coral pink flowers. During May and June it is one of the most graceful and showiest plants in the mixed border, specially adapted for cutting, and furnishes suitable material for tall vases. It is increased by seeds sown in the Autumn or Spring, also by root division.

THE ANTIRRHINUM OR SNAPDRAGON.

This is closely allied to the pentstemon, not so much from the botanist's point of view, as from the gardener's, who always associates the two. Being of much the same size, habit, and general appearance, and, moreover, flowering about the same period, they can fittingly be associated in bedding schemes. The medium sized forms are freely grown in Shanghai and are known by the gardeners as "Frog's Mouth." They remain in flower during a considerable portion of the Summer, especially the spring sown plants. White, yellow, and crimson are the predominating colours although they mingle in many forms.

Though all are derived from *Antirrhinum Majus*, they present a considerable difference in habit from the Tom Thumb section, six inches high, to the tall section, two to three feet high. In England they have been grown to a height of 6 to 7 feet and 4 feet in diameter. Their cultivation is similar to that of the Pentstemon.

SOWING SEEDS.

Seed time and spring, harvest and autumn, are usually accepted as contemporary terms for two seasons, but to gardeners, more especially in topsy-turvy Shanghai, the chief season for sowing seeds, particularly of the homeland plants, is the harvest or autumn time. From the middle of July to the middle of October is the chief sowing season for hardy annuals and perennials, as Wall-flowers, Lavender, etc., consequently a brief survey of the seed, its functions, and the proper methods to adopt in the germinating thereof seems appropriate.

AN EXPLANATION OF THE SEED.

The seed in the vegetable kingdom may be termed analogous to the egg or ovum in the animal, both being the product of the union of two atoms of protoplasm, and containing the germ of life of the future generation. The seed consists of the future plant, clearly defined as in the Bean and Pea, or almost impossible to distinguish as in the Orchid, and a store of food either contained in the embryo plant itself or forming a layer all around it. Instead of warmth as in the animal kingdom which gives life, the seed is chiefly dependent upon moisture for the stimulant necessary to awaken it into life. Thus, Nature protects the future generation by enabling the seed to retain the germ of life through a more or less prolonged adverse season. As moisture and a certain amount of warmth are the requirements for germination, it will be understood that the supplying of those two elements in the correct quantities is the whole secret of germination. The seed absorbs its moisture from the soil, and visibly swells, until it attains its normal size. Thus moisture plus a ferment, acting on the embryo plant and its store of food, animates the seedling, which rapidly absorbs its food, becomes vital, breathes, thereby gaining energy, which is soon evident by the embryo bursting the outer coating of the seed, no matter how hard, and fixing itself in the soil, its root penetrating into the earth and its leaves into the air. Too much moisture in the soil acts prejudicially by excluding air, consequently the seed is unable to obtain the force-giving element without which it cannot germinate, and also it lowers the

temperature of the soil. Too little moisture delays at first germination, by reason that the seed is unable to obtain moisture, hence the reason why if kept dry for a period, whilst alive, it does not germinate, so it is possible to keep seeds from one season to another. Once, however, it has absorbed a sufficient quantity of moisture to set the forces of germination in action and it is allowed to become dry, the embryo plant is killed. Hence the reason of many failures in the open air if the seed-bed, having at first been moist is allowed to become really dry; the dry soil absorbs the moisture from the seed, and the young plant in the process of germination is killed.

HEAT.

Every plant has a maximum, minimum, and optimum temperature, above and below which extremes it fails to grow. Its resultant seeds are governed by the same laws of temperature. Though they germinate in a temperature a few degrees higher than what is the plant's maximum temperature, they give most satisfaction if germinated in a temperature a few degrees higher than that estimated to be the parent's optimum temperature. In other words whilst they can be forced into growth at a high temperature, they are weakened thereby. The functions of heat are such that the ferment contained in the seed converts the store of food into elements which the embryo plant can assimilate, but this refuses to act until the temperature has attained to the degree of heat it requires. A seed might absorb all the water it requires, although that water was at the freezing point, but no germination would ensue until the temperature demanded by the ferment had been attained.

PREPARATION OF THE SEED BED.

In order to ensure successful germination a certain amount of preparation of the soil is necessary. Seeds of Farm crops and many vegetables will germinate in almost unprepared soil, but will, on the other hand, yield a much larger percentage of young plants if sown on a proper medium. Note even weeds, how prolifically they spring up on prepared soil compared with those that fall on hard barren soil. Already we have noted the chief requirements of germination, moisture, and air, and warmth. Drainage while allowing the surplus water to run away ensures by a curious law that the same conditions which facilitate the removal of surplus water also renders the soil moister under ordinary conditions than undrained soil. This theory will be explained in our article on drainage, it is sufficient for our present purpose to note, that a well drained soil contains during a dry period more of the necessary moisture than does an undrained soil. Moisture is also retained by humus decayed vegetable matter, manure, etc., whilst in addition the soil is enriched and rendered more porous thereby. In making a seed bed a shady position should be selected. Dig over the ground to a depth of 12 inches, if necessary incorporate a good dressing of well decayed manure. Soil which was heavily manured a few months previous, and requires no addition at the time of preparing for seed is preferable. When the soil has been well dug and broken up, tread it down firmly on a dry day. After treading rake the

surface to break up into a fine powder the first inch or inch and a half, of soil, then draw rows. Sow the seeds in the furrows, cover over the seeds and gently press the surface. The depth that seeds should be sown depends upon their size, a general rule is to cover them with a layer of soil equal to their own size.

SOWING TENDER SEEDS IN POTS.

Use only dry and clean pots and pans, place a layer of broken pots in the bottom over which a layer of finely broken crocks is laid, cover with leaves, moss, or some such substance to ensure that the soil will not penetrate into the drainage. Pass the soil through a fine sieve, using the rough soil retained in the sieve to fill in the first few inches of soil in the pot, over this place a layer of prepared soil sufficient to fill the pot to within $\frac{3}{4}$ of the rim, lay a layer $\frac{1}{4}$ of an inch thick of very finely sieved soil containing a plentiful admixture of sand, press down with a flat piece of wood till the surface is firm and level. The pots should then be well watered with a fine rose, and allowed to stand for about four hours to allow the surplus water to drain away. The seeds can then be sown on the surface, and covered with the fine soil, and then again gently pressed. Some very fine seeds require no covering of soil. If the pots are now placed in a shady position, and a sheet of glass, slate, or anything that will prevent evaporation, further watering will not with the majority of seeds be required until after they have germinated. When the seed pots require water before the seeds germinate the best plan is to immerse them up to the rim in water, allowing the water to rise up through the soil.

CHRYSANTHEMUMS.

A photo in Denniston & Sullivan's named "Chinese Blossoms," consisting of two Chinese children and flowers of Chrysanthemums, is an apt illustration of the position the chrysanthemum is accorded by the Chinese. It probably is the favourite flower with them. Undoubtedly it is with the gardeners, who will devote days of patient toil to its cultivation, whilst neglecting every other plant under their care. The Chinese gardener who has to be corrected for neglecting his chrysanthemums by his employer is a rara avis. Just about as rare as the one who has not to be daily corrected for neglecting the other plants under his charge. Its cultivation in Europe, America, and Australia began, nominally, in 1823, when J. D. Parks, who was specially sent to China by the Royal Horticultural Society of England, brought to England sixteen living plants of it. Since then the progress in its cultivation has been marvellous, cultivated in every part of the world where the white man has established a home. To such an extent, and so well, that even distant Australia annually raises and sends to the home land, a very large number of the premier varieties. Whilst China and Japan, where it has been cultivated for centuries, are obtaining improved forms from the home lands. When chrysanthemums were first cultivated in China it is impossible to say. Undoubtedly thousands of years ago. The earliest record of its cultivation in Japan is in 313 A.D. when the Korean Court presented to the Emperor Nintoku of Japan some plants of a yellow flowered chrysanthemum. As it is now clearly proved to the satisfaction of botanists that it originated in China by the accidentally crossing of the original

parents, *Chrysanthemum indicum* and *C. sinensis*, two forms whose flowers are of the size of those of the Michaelmas daisies. The tremendous possibilities of developing the products of the vegetable Kingdom is most effectively illustrated by the chrysanthemum. From a thin flower, about one inch in diameter, it has by cultivation been developed into a bloom 7 inches in diameter and about the same in depth. From which it may be assumed that careful cultivation and time may develop almost any of our flowers, fruits and vegetables into large proportions; were it desirable. No one desires to confer a degree upon the florist who produces a Rose as large as a cabbage, "that would be rather too much sweetness in one lump," but judging, even by the development of the rose itself, and the obvious example of the chrysanthemum, cabbage roses in reality are easily within the range of possibilities. The terms Japanese and Chinese applied now over the civilised world to two distinct groups of Chrysanthemums, originate by the first plants of the recurved and twisted petal forms coming to England from Japan, whilst the incurved or ball shaped forms were all introduced from China. Knowing now, as we do, that the chrysanthemum originated in China, it is quite within reason to assume, that in acquiring it from the Chinese the Japanese selected the wavy petaled forms—forms of a more artistic appearance and graceful outline, in fact just the forms typical of their airy ideas in art. The incurved, or formal appearing kinds presumably rejected by the Japanese were and are the favourites with the Chinese. They in their turn resemble China and the Chinese most, being in appearance typical examples of stolidness—staid, stiff, and markedly formal. A something conservative and dependable looking.

CULTIVATION.

Although Chrysanthemums are amongst the easiest of flowers to cultivate, yet, the ambitious cultivator who desires to produce large blooms, must attend to their cultivation from one year's end to the other. Immediately the blooms perish, cuttings must be secured—those stout short jointed shoots arising from the base of the stem form the best cuttings. In selecting cuttings the all-powerful forces of hereditary must be considered. It is useless to expect superb progeny from degenerate parents. Although in this instance, whilst generally accepted, the term parent is a misnomer, the cutting being merely a portion of the existing plant, not a new generation, yet, the law governing hereditary applies to the selecting of cuttings even more strongly than to seed. The law governing the selection of cuttings should be, "take them from the plant which has produced the finest blooms," but for one contingency, the unnatural and excessive high feeding given to the plants.

This excessive feeding, undertaken for the production of monstrous blooms has, it is found, such an exhausting and debilitating effect, that continued for two or three years gives a worn out stock. To keep the stock rich in that superb virility which ensures the last result when subjected to powerful stimulants, large growers make a practice of growing a number of plants in borders. These are allowed to develop naturally, and from them they take their cutting for the ensuing years. The cuttings are inserted in a light loamy soil, kept close and shaded for a few days, after which they should be insured to full light and

air. In a month's time they will have developed sufficient roots to allow of putting them individually into 3 inch pots. A light porous soil similar to that employed for the cuttings will suffice for this potting. During the winter a slight protection from frost should be given but nothing approaching coddling should be done. By the beginning of March the plants will be ready transfer to 5 or 6 inch pots. The potting compost this time should be stronger and richer. A good compost consists of good loam, i.e., decayed turf, as turf edgings, etc., to each picul of which add $\frac{1}{4}$ picul of leaf soil, $\frac{1}{8}$ picul of sand, 3 lbs. of ground bones, or bone meat, and 10 lbs. of dried cow manure. Mix the ingredients well, and pot firmly. About the middle of June they may be transferred to their flowering pots, using a somewhat similar compost to that employed for the preceding potting, plus about 10 lbs. of charcoal, in pieces about inch square and a few lbs. of a manure rich in potash. Wood ashes and those of old chrysanthemum stems will yield all the potash required. After this final potting the plants should be stood on bricks or ashes, in rows, at least three feet between the rows to ensure that each plant obtains the maximum amount of light and sunshine. At the final potting space should be left in the pots to allow of a top dressing being given towards the end of July. August is time enough to commence feeding, and all stimulants given should be weak at first. The following is a good method of giving them food. First two weeks in August, weak soot water once a week. Second two weeks: soot water once a week and liquid cow manure once a week. During September, in addition to the soot and cow manure, liquid made from rich Guano may be given once every ten days. During October, liquid manure should be given every second day, varying the diet as much as possible. Towards the end of October the flower buds begin to show colour, and from this time on till the flower is nearly expanded a little sulphate of ammonia or nitrate of soda should be given once a week.

TAKING THE BUD.

In Shanghai, Chrysanthemum culture is not sufficiently understood to make this a matter of much moment. In the home lands, where they are frequently cultivated by men who do nothing else from one year to another, this selecting of the bud is brought to a state of perfection, that might almost be termed a science. Briefly, the plant grows on as a single stem until it forms a bud. Here the main stem terminates and the branches begin. This is called the Crown Bud, and the resulting branches the "First Break." Some varieties in Britain are not allowed to break, i.e., produce branches, it being found that for certain varieties the "Crown Bud" gives the best flowers. Many varieties are again not allowed to form this Crown Bud, for to allow them to do so and break naturally would mean that the flowers would be too late, consequently the point is taken out of the young plant at stated dates, from the beginning of May to about the middle of June. This pinching of the point induces the plant to form branches much sooner than it would do naturally. The branches resulting from the natural break caused by the "Crown Bud" or from the pinching out of the point of the plant, grow on for a time, and in turn their growth is germinated by a bud called the "Second Bud" a large number of varieties yield the finest blooms from this bud, and consequently no further production of branches is allowed. When, however, as usually in Shanghai, the flowers are from the terminal bud, the branches formed by the Second Bud are allowed to grow until their growth is in turn terminated. By this time a cluster of flower buds. Where large flowers are wanted only one, generally the

centre of one of the cluster, is retained, all the others being picked out. The following method will, generally speaking, give nice sturdy plants producing six large blooms. When the "Crown Bud" is formed, cut back the plant to within 9 inches of the pot. As the resulting branches are produced retain three and remove all the others. When this three branches' growth are each terminated by the "Second Buds" allow each branch to produce two branchlets, which grow until their growth is terminated by the terminal cluster of buds, one of which is then retained. For bush plants and such as are grown more for decorative effect, which after all is the most desirable—than monstrous blooms, March is the best time to insert cuttings treated as already advised. They grow without check, and produce equally as good results as November cuttings unless they have been carefully wintered.

PRECEPT AND PRACTICE FOR THE MONTHS OF THE YEAR.

JANUARY

The first month of the year finds us consulting our notes, made the previous year, of all alterations and additions we proposed effecting, as the present is the most suitable time for undertaking the making new paths, trenching new beds and borders or kindred operations involving the moving of soil in bulk. By attending to this now, all rough work which renders the garden unsightly will be completed prior to the opening of the spring flowers, when the garden again begins to be more attractive. All the empty spaces in the Kitchen Garden now require to be deeply dug, adding as the digging progresses a good dressing of farmyard manure. Where the soil is a stiff clayey one fresh stable manure dug in tends to loosen the soil. Where however fresh manure is employed it is advisable to do so a few months before we intend to plant anything.

Hotbeds can now be made in which to raise early flower and vegetable seeds. In them also it is possible to grow the early crop of Lettuce and Radish. Further, those having a few beds of Asparagus can lift some of the plants at intervals, place them on the Hotbed and thereby obtain an early supply. In the greenhouse, cuttings of perpetual flowering Carnations have now to be inserted to ensure good plants for flowering next winter. Imported

tubers of Tuberous Begonias and Cyclamens have to be started and autumn struck plants of Geraniums, Fuchsia and Pelargoniums require repotting into large pots. Roman Hyacinths which were in flower about the festive season are now past, and the pots can be placed in a frame to complete their growth, a further batch of the bulbs of Chinese Narcissus have also to be started to prolong the flowering season of this most useful plant.

FEBRUARY

On mild days there is now a touch of spring in the air, and the planting of deciduous trees and shrubs has to be attended to. Where the shrubberies are over-crowded they can be thinned out by removing some of the plants, and the plants thus removed will be found useful for filling up other beds. Evergreen shrubs, however, will have to remain in their present positions till well on in March. Patches on the lawn rendered bare by last year's tennis or other causes have to be returfed. And the entire lawn will be benefited by a top-dressing consisting chiefly of decayed organic matter. After which it will require rolling. Providing the weather is mild an early sowing of Green Peas will be made towards the end of the month, and seeds of Lettuce, Borecole, Brocoli, Early Cauliflower will be sown in frames. In the greenhouse, the plants required for summer bedding now claim attention, inserting cuttings of Acalypha, Coleus, Crotons, etc. Leaf cuttings of Begonias, Rex and Gloire de Lorriana also have to be inserted. The Tuberous Begonias and Cyclamen, started last month, are now ready for potting, and it is also time we started our first batch of Gloxinia bulbs. A sowing of Gloxinia seeds has also to be made to ensure flowers of this decorative plant in the autumn.

Plants in flower.—Begonias Froebeli and Coccinea, Phalenopsis, Schilleriana, Amabilis and Luddemaniana, Primroses in pots, Primula, Sinensis and Primula Obconica, Violets, Peaches Daedalacanthus Nervosus, Chinese Narcissus, Buddleia Asiatica, Hyacinths, Early Tulips, Crocus and Snowdrops.

MARCH

The majority of the Tulips, Hyacinths and Daffodils in the flower garden are now well through the soil, and as the action of the sun in the middle of the day now becomes evident, we shall require to remove all protecting litter off the beds and run the hoe through between the plants. The pruning of roses now requires to be done, cutting back all weak shoots to the last three buds, and leaving fully two-thirds of the strong shoots. Some varieties incline to make very strong growth and in dealing with them it is found advantageous to lift them and prune their roots as well as the shoots. If, however, large flowers are not required, the best plan is not to prune at all such strong growing forms other than cutting clean out superfluous shoots, but to peg down the strong growths over the bed. Such roses will yield a greater profusion of blossom. It is advisable every year to select a certain amount of the prunings and make cuttings of them which in two years' time make useful plants. The same applies to many of the flowering shrubs which we are also pruning now. Given good weather at the end of the month, we shall require to sow seeds of the summer flowering plants as Torenias, Celosias, Cockscombs, Sunflowers, Hibiscus, etc. Such beds as were not planted in the autumn we can now plant with Stocks, Shirely Poppies, Nigela, Coreopsis, and other May flowering plants.

In the greenhouse the Marguerites are effective and a few cuttings now inserted form useful early flowering plants next season. Early struck Chrysanthemums have to be potted on, and cuttings of Moschosma, Peristrophe and Geraniums have to be inserted. The vegetable seeds sown last month require planting out, and various other seeds have to be sown particularly of such things as Corn, etc., which keeps up the supply during the very hot weather.

Cutting of Chrysanthemums for planting out in beds have to be struck.

APRIL

Windsor Beans are now in flower in the Kitchen Garden and require earthing up. Occasional watering with liquid manure will assist the pods to swell. Peas require staking and another sowing of Lettuce and Radish has to be made. Hoe frequently between the rows and dust between them with artificial fertilizer which will forward growth.

Sulphate of Ammonia applied to the Cabbage tribe proves very stimulating.

Our Carnations, Coleus, Crotons, Gloxinias, etc., started some time ago require a shift into large pots. The potting of Ferns, Palms and other permanent furnishing material also has to be attended to. And cuttings of Daedalacanthus Nervosus, Rainwardtia, Buddleia Asiatica and Bouvardia have to be struck. Cinerarias now require frequent sponging on account of the green fly as also do Calecolarias. The Flower Garden is now gay with the spring flowering bulbs and early flowering shrubs and general neatness is imperative. Notes have to be taken of the varieties of Bulbs which give best results and are most pleasing for the ordering of next year's supply. It is

a good principle to draw out the next season's Bulb order when the plants are in flower and the kinds desired are impressed on the mind.

Plants in flower.—Prunus, Spiraea, Forget-me-not, Polyanthus, Daphne, Hyacinths, Tulip and other spring flowering bulbs and Astilbe, Lily of the Valley, Heppeastrum and Ixias in pots.

MAY

Nowhere is the expression, "The Flowery month of May," more applicable than in Shanghai where the gardens are replete with colour and fragrance. Then we have Roses and Carnations, Poppies, Sweet Peas, Pansies, Stocks, Larkspurs, Marguerites, Canterbury Bells, Foxglove, etc., etc. The shrub borders and herbaceous plants, especially the latter, are full of flower. The weather as a rule is delightful and all nature smiles. Amidst this wealth of Floral gems it is natural to feel inclined to take a breathing space and feast on the wealth thus laid at our feet. But, alas, their days are few and the hot suns of the summer demand that plants of a different clime be prepared and planted out. The majority of the spring flowering bulbs are now about ripe and they have to be harvested, properly dried and stored. The beds that they occupied have to be dug over and prepared for the reception of the summer flowering plants, and the plants themselves require continual attention to ensure that they are in a fit condition at planting time. The lawns require regular attention. The tennis lawn has to be mown twice a week and rolled about as frequently. Various early flowering shrubs as Forsythias which are now out of flower have to be pruned to ensure a supply of those long wand-like shoots which form their

charm when wreathed with blossom. In the Kitchen Garden, strawberries are in fruit, also green Peas, and a good supply of vegetables. Salads now and for the next three months are in special demand, consequently we shall have to attend to sowing seeds of them regularly.

JUNE

Our first attention is claimed by bedding out such plants as give best results during this and the following two months when tropical conditions prevail.

The plants employed for this consist of Torenias, Acalyphas Ginnias, Tuberoses, Crinums, Coleus, Alternanthera, Crotons, Amaranthus, Cockscombs, Verbenias, Vincarosea, Asters, Celosias, Plumbago Capensis, blue and white, Abutilons, Salvia Farinosa, Lantanas, Cannas, Ricinus Marvel of Peru and Everlastings which are amongst the most suitable. It is true they do not supply good material for cutting but they provide a wealth of colour such as our clear skies and bright sunshine demand. The pot Chrysanthemums now require to be repotted into the large pots. At this potting it is advisable to employ strong rich soil to which some bone meal and guano has been added. The greenhouse plants are for the most part better, for the next 2 or 3 months, out of doors in a shaded house, delicate plants, such as Maiden-hair Ferns which would be damaged by a high winds will be kept in the Greenhouse which is now heavily shaded with bamboo blinds. Gloxinias require some liquid manure now to perfect their flowers.

Caladiums are progressing favourably and they also require feeding, Tuberous Begonias should be dried off as speedily as possible otherwise the Tubers will decay, and Cyclamen also require resting.

Plants in flower.—Genista, Cystisus, Coreopsis, Dahlias, Spiraea Nobliana, Oleanders, Lilium Longiflorum, Gladiolus Galtonia, Pentstemons, Begonias Sanguinea, Semperflorus, Browallia Speciosa, Fuchsias, Pelargoniums.

JULY

Geraniums and Pelargoniums are now passing and require to be cut back and kept fairly dry, all the shoots being removed to be made into cuttings as they will form nice flowering plants next spring. The heat being now intense it is fortunate that beyond watering, mowing, etc., the gardens do not call for much strenuous effort. We shall require to sow seeds of Primula Sinensis towards the end of the month, and the young plants of Bouvardia, Peristerophe, Moschosma and Poinsettias require potting on.

The Runners of strawberries are ready for removal from the parent plant and can be planted thickly in beds over which a mat can be thrown to shade them. Carrots and Beetroots, also Celery, can now be sown, whilst a sowing of Lettuce must not be forgotten. Hibiscus Splendens, H.

Plants in flower.—Coccinea, Pentstemon Barbatus, Lobelia Cardinals, Nicotianas, Tweedia Coeurlea, Browallia elata, Verbenia Venosa, Vinca Rosea, Clerodendron Fallax, Buddleia Lindleyiana, B. Variebilis, Helianthus, Rudbeckia, Crinum Asiaticum, Montbretias, Plumbago Capensis, Lilium Tigrinum, L. Henryi, Hemerocallis Thunbergia.

AUGUST

The Poinsettias have now made good growth and small superfluous shoots we can make into cuttings as they form nice dwarf plants which can be employed on the table about Christmas time.

Cuttings of Crotons, Acalypha, Abutilon, Lantanas and Coleus are now being inserted also a batch of Begonia Rex. We are preparing the seed beds in which we propose to sow Wallflowers, Forget-me-nots, Cornflowers and other spring flowering plants as Pentstemons, Gaillardias and Phlox Drummondü go out of flower; we replant the beds with Chrysanthemums.

The Pot Chrysanthemums now require a good deal of attention in the way of staking and about once every two weeks they require liquid manure.

SEPTEMBER

Our Wallflower and other early spring flowering plants sown at the end of last month are ready for pricking out, and the beds have to be prepared for the main sowing of such things as Stocks, Pansies, Coreopsis, Larkspurs, Antirrhinums, etc.

In the Kitchen Garden we are also making preparations for the sowing of the majority of vegetables.

Plants in flower.—Toreniyas, Cockscombs, Celosias, Zinnias, Tuberoses, Clitoriaternata, Nerium Oleander, Asclepias, Rudbeckia, Morning Glory, Portulacas, Vincarosea, Foochow Creeper, Hibiscus Manihot, Plumbago, Lobelia Syphilitica, Amaranthus, Pricked out seedlings Wallflowers.

OCTOBER

As far as possible we have completed the planting out of our Chrysanthemums in beds, and we have also made a sowing of Sweet Peas. Our seedlings sown last month have to be pricked out, and require considerable attention in the way of shading.

We propose housing all our greenhouse plants by the end of the month and consequently are having the greenhouse painted both outside and in and all repairs seen to. This annual painting adds largely to the life of the greenhouse foliage rendering it more attractive. Before housing the plants they should all, pots included, be carefully cleaned, thus avoiding the introduction of insect pests. All early flowering bulbs as Tulips, Hyacinths, etc. have now to be potted up. The imported bulbs are not yet to hand but last year's bulbs form excellent material and always come into flower ten days sooner than the imported ones even when both are potted on the same days. Seeds of Schizanthus, Mignonette can also be sown in pots, where a frame is available. A sowing of Mignonette on the soil, over which the frame can be placed gives excellent spikes for cutting.

NOVEMBER

The Flower garden is now resplendent with Chrysanthemums in numerous varieties and while they are at their best we are selecting the most pleasing varieties which we intend to plant in bulk next autumn.

With this flower it is so easy to have a fresh scheme each year, that whilst our gardens consist this month chiefly of Chrysanthemums, yet each succeeding year we can have new colours predominating which give almost as much variety as if we had flowers of other kinds. The beds furnished with tropical plants are now vacant and ready for planting with Tulips, Daffodils, etc. After the bulb bedding is completed all surplus bulbs will be potted up and eventually brought forward to flower a week or two before those planted in the beds next spring.

DECEMBER

All the early summer flowering plants, if not already planted, must be seen to at once, as the seedlings sown in September and October are nice sturdy plants especially Coreopsis, Antirrhinums and Cornflowers. Given the usual weather generally prevailing this month, they will become established before the hardest part of the winter sets in. After planting we surface the bed with a mulch of short stable litter, which tends to provide protection for the roots. The greenhouse is now becoming the most attractive part of our domain. Reinwardtia and Carnations are in flower ready for the Christmas season.



LIST OF THE KITCHEN GARDEN ESCULENT PLANTS AND HERBS.

As the Kitchen Garden may generally be considered as the principal, or at least the most profitable useful district of the horticultural departments, in its numerous productions, wholly of the different sorts of esculent vegetables, essential articles of food beneficially important in domestic economy, have judged it expedient to give not only a general List of the different species, and their respective varieties of the Kitchen Garden Plants, but also short descriptive intimations of the nature and growth of the different sorts : as Annual, Biennial, Perennial, &c., peculiar properties for culinary and other family uses, methods, and times of propagating sowing, planting, order of culture, and seasons of perfection ; which will convey some useful previous hints, preparatory to proceeding in the general cultivation ; referring, however, to the general work of the different months for the full cultural particulars of the respective sorts.

Note.—Observe that as the following List of the Kitchen Garden Plants consists of Annuals, Biennials and Perennials, have distinguished them accordingly;—the Annual marked thus*, Biennials†, and the Perennials‡ ; and as some are Annual-Biennial, that is, such as when sowed early in the spring go to seed the same year, such as turnips, celery, endive, &c., but when sowed later in their respective seasons of spring, and early part of summer, stand without running, attaining perfection the same year, and continue till the spring following, as marked§ ; other sorts, being somewhat Annual-Perennial, that, although they continue Perennial, by root offsets, yet require fresh planting every year, as potatoes, Jerusalem artichokes, garlic, shallots, mushrooms, &c., are marked||.

A

† ASPARAGUS, a hardy plant of the perennial nature of many years' duration by the root ; and of great estimation for its annual produce of numerous young top shoots arising from the roots for use in April or May, and June or July ; then permitted to run to stalks till October.

Gravesend asparagus, large,
Battersea,
Deptford,

and of each of which there are :

Redtopped, or of a reddish brown, generally close and plump.
Green.

But these several varieties differ principally in the first three by means of different soils, situations, and culture, in being of larger, smaller, and closer plump growth ; always raised from seed sowed in the spring, once in several years for a single plantation ; and when the plants are one year old or two at most, must be transplanted into beds, in rows, a foot asunder ; and when of three years'

transplanted growth will produce shoots of proper size for cutting ; and the same plants continue many years in good production, principally in May, June, &c., as before observed ; and may also be obtained in winter by forcing in hot-beds, by introducing proper plants of two or three years' transplanted growth in the full ground.

† *Artichoke*; a plant of the perennial tribe, producing from the root annually its large squamose heads, in full growth in June or July, and August, till October or November, comprising two varieties, viz.:—

Globe Artichoke; large globular reddish heads; best for general culture. Green oval, or French.

Both sorts by young suckers. From the bottom in the spring, planted in rows four or five feet asunder, will produce heads the same year in autumn, and will continue by the roots in several years' production.

|| *Artichoke, Jerusalem*; a tuberous-rooted perennial of tall growth, producing large roundish oblong, irregular, fleshy tubers in the ground, the eatable parts ; in perfection in autumn and winter till spring, to boil and eat with butter, &c. ; good and wholesome ; only one species which is of the helianthus or sunflower tribe, called by the botanists *helianthus tuberosus*, *tuberous sunflower*, commonly called *Jerusalem artichoke*.

But the plant is of very dissimilar growth to that of a common artichoke, growing more like a tall sunflower, of which it is a species as aforesaid ; and which, though commonly called *Jerusalem artichoke* is not a native of that part, but principally of America.

Is raised by offset tubers of the root, or rather cuttings of the large main tubers ; to be planted every year in the spring, in rows two or three feet asunder, and three or four inches deep ; and will be of full growth in the root to take up in October, November, &c.

Anise ; a small portion of this is sufficient for a large family, being only cultivated for a garnish, and some time used for seasoning.

B

* *Bean*, many varieties ; very profitable to cultivate several full crops annually, for summer and autumn productions, from June till September or October.

Early Mazagan, smallest and most early,

Early Lisbon, small,

Early long-podded smallish middling,

Large long-pod, good middling,

Sword long-pod, of superior length of pod and size,

Broad Spanish, middling large,

Toker, moderately large,

Sandwich, largish,

Windsor broad bean, large,

Kentish Windsor, larger,

Taylor's Windsor, largest,

White blossom smallish middling, a great bearer, and fine sweet eating bean,

Mumford, middling size,

Green nonpareil smallish,

Dwarf cluster or fan, being of very low growth and small pods, &c.

Red Blossom, middling.

All by seed (the beans) in several different successional sowings or plantings, or at least once every month from November, December, or January, &c., till May, June, or July, generally the principal crops are planted in January, February, March, April, all planted in rows two to three feet asunder, according to the

smaller, middling, and larger kinds ; mostly by dibble-planting, two to three or four inches apart in the row, and two inches deep ; or smaller kinds, or others occasionally planted in drills : and generally all to remain where planted.

Beet ; useful culinary plants several varieties, some for their root, and some for their leaves, viz.,

Red beet, for its root, of which there are,

Long rooted,

Short or turnip rooted.

The roots are large, deep red, and fleshy, used for pickling, and boiled to slice in salads cold, or to eat alone with vinegar, &c., raised by sowing every spring, in February or March, &c., to continue in full growth all summer for autumn and winter ; sowed either broadcast, or in drills a foot asunder ; all to remain where sowed, and thinned ten or twelve inches distance.

Green beet,

White beet,

Both these two last for their leaves to boil as spinach, and for soups, &c., in spring, summer, autumn, &c., and the thick fleshy leaf stalks of the white sorts also to dress like asparagus. Raised by seed every spring, and occasionally in summer and autumn either in drills a foot asunder, or sowed broadcast, and the plants thinned accordingly ; all to remain where sowed, or some occasionally transplanted in young growth in rows.

Borage ; a family herb, to use on different occasions ; one sort only, viz.:—

Officinal, or common borage.

The young leaves are used in salads, soups, &c., and the leaves and flower-shoots in negus, or cool tankards, in summer and autumn ; is raised by seed in spring, summer, and autumn, to remain ; and thinned from six to twelve inches distance.

† *Borecole* ; sometime called Scotch Kale, plants of the open cabbage or colewort kind, with a tall stem, and large head of curly leaves, not cabbaging, but remaining open and loose to the heart of hardy growth, to stand for winter greens, and the side sprouts for spiring.

The varieties are,

Green borecole,

Brown or purple,

Finely fringed leaved,

Spreading leaved,

Upright leaved.

But the first two are the general common varieties, having generally spreading heads ; though the others also rise accidentally from seed, and by care in saving seed from only the best sorts of the respective varieties, may all be continued permanent.

They all grow with a strong upright stem, two or three feet high or more, crowned with a large head of open leaves, more or less fimbriated crumpled, or curled, and are excellent hardy open greens for winter, &c., are all raised every year from seed sowed in March and April, and planted out in summer two or three feet asunder.

§ *Broccoli* ; plants of the *brassica* or cabbage tribe, not cabbaging, but producing a compact central head formed of the advancing flower and seed buds, in the manner of a cauliflower ; most excellent eating, acquiring useful growth for the table the latter end of autumn and in winter, and in superior perfection in the spring, in large full heads, consisting of several varieties, viz.:—

Early dwarf purple to sow early for autumn production,

Early green,

Large late purple for main crops,

Dwarf late purple, spring,

Late green,

Brown,

White, or cauliflower broccoli, of great similarity to a cauliflower, and scarcely inferior for eating.

They are plants of much estimation for their fine central heads aforesaid, of most tender and delicate eating, and proper to cultivate in principal crops; all raised every year from seed in the spring, and early part of summer, in three or four sowings, from March and April to the end of May, for early and late production of proper full heads, from October or November, till April or May following; planted out in summer, in best rich ground, in rows, two to three feet asunder.

C

CAPSICUM, for its seed-pods of a hot spicy nature to pickle, &c., consisting of several varieties, viz.:—

Long-podded,

Heart-shape,

Bell-shape,

Angular podded,

Round short-podded,

Cherry shaped, &c.

Are all tender annuals, to be sowed in a hot-bed, March or April, and planted out in May, or early in June, a foot distance, and will produce plenty of pods green and ripe, for use in July, August and September, &c., being first green, and ripens to a bright red colour; some yellowish.

† *Cabbage*, a plant of superior usefulness at all seasons, both in its headed cabbaged growth, and its open colewort state; and should be cultivated plentifully in principal crops in all gardens, for summer, autumn, winter, and spring supply of a family and market; and consists of several varieties, viz.:—

Small early dwarf,

Early dwarf Yorkshire,

Large early Yorkshire,

Early dwarf sugar-loaf superior for main crop,

Battersea, early,

Imperial, early,

Early Russia,

Early Antwerp,

Early Lewisham,

Of the above, any or some of each of the first three or four sorts for the forwardest early crops; but most of the large York and large sugar loaf and any of the last four sorts are superior for the principal early and general summer cabbages; of the large York and sugar loaf aforesaid, the imperial, and Antwerp, are excellent for a general summer supply, and a continuance for autumn, &c., all sowed both in the spring, February, March, April, to obtain maturity the same year; and sowed in August to remain in young growth all winter for the early and first general summer crops next year, and succeeded by the spring-sowed, as above, and the following larger kinds for autumn and winter.

Large oblong hollow,

Long-sided, hollow,

Large white, round.

These last three are large autumn and winter cabbages, in September, October, and November, &c., sowed both in the spring, February, or March, &c., to cabbage

the same year in autumn and winter ; and sowed early in August to remain in young growth till next spring, then planted out to cabbage sooner the following autumn, and in larger growth than the spring-sowed crops.

Red Dutch, principally for pickling, or to shred raw as a salad, in autumn, winter, and spring.

This, in the true sort, is of a very deep or dark red ; with thick fleshy leaves, cabbaging very hard ; is sowed in August to plant out in spring for the principal crops next year, to cabbage large and effectually in full perfection the following autumn and winter, and sowed in spring to plant out early in summer for cabbaging the same year in autumn and winter, but not so fully as the autumnal sowed plants, as above.

When required to have a succession of young light cabbages continued in the autumn season, August, September, October, and till winter, may sow in May or June and July ; and also at the same time may sow some proper sorts for open cabbage coleworts for autumn and winter, and early spring supply ; but not to sow before the beginning of August for the general crops of continuing spring coleworts to stand throughout that season without running, which would most generally be the case if sowed sooner.

Cabbage Savoy.—See *Savoy*.

Turnip-rooted cabbage, having a large turnip-like bulb under ground.

Turnip-stalked cabbage, with the bulb above ground.

They are of the open colewort tribe, the leaves not cabbaging to a close head ; the turnip-like swelling part grows very large, but is seldom used domestically, or only occasionally when young, and are principally for field culture ; or a few in gardens for variety, sowed in the spring, &c., and transplanted early in summer.

Cabbage colewort.—See *Colewort*.

† **Carrot**; a valuable useful esculent root, is of biennial growth, attainable at all seasons of the year ; first in young and middling growth in May, June, and July ; large in August and September, and in largest full growth in October, &c., continuing good all winter till April or May following, and should be cultivated plentifully in principal crops ; two varieties, viz.:—

Common orange carrot, being of an orange colour ; most large long root, proper for the main crops.

Early horn carrot ; short, smaller root, for early crops.

Of the above two varieties, the first is superior for general culture and the principal main crops, preferable for its long large growth in the root ; and the second to sow occasionally for smaller early crops ; both sorts sowed in the spring, February for early, and March and April for main crops ; and to sow in May and July, &c., for successional young carrots in summer, autumn, winter, &c. ; also a sowing the beginning of August to stand the winter, in young growth for early young spring carrots in March or April, &c., all sowed in light, deep mellow ground, broadcast, and rake it in with good regularity ; and the plants thinned in May and June, &c., three or four to six or eight inches distance in the different crops, some to draw young, and the main crops to stand for large full growth, and thinned to a proper distance accordingly, to continue in increasing growth in the root till the end of October ; then taken up, and housed in sand for the winter.

Cauliflower ; a plant of the *brassica* or cabbage tribe, of general estimation, and considerably profitable to cultivate in principal crops, for its large, white, central flower-head, arising in the middle of the surrounding leaves, formed of the advancing young flower-buds in a close firm cluster of large circumference ; most excellent eating ; obtained in summer, autumn, and winter, from May, or June, till December ; but in superior perfection in June, July, and August ; consisting of two varieties, viz.:—

Early,—for the first early crops,

Large late,—that is probably, only a few days later; proper, for the general main crops.

They are raised in successional crops by sowing in autumn, spring, and summer,—that is, sowing the early and main summer-crops towards the latter end of the third week in August, to stand the winter in young growth. Some planted out in October under hand glasses, others in frames, &c., to plant out in spring; all for the general early and principal main crops next summer; and a sowing in the spring for later or succession crops the same year in July or August, &c. Likewise a sowing in the fourth week in May, to plant out in July for the Michaelmas and winter crops in October, November, and December.

§ *Celery*; a desirable salutiferous plant, of the annual-biennial kind, essentially requisite to cultivate in some tolerable plentiful supplies, in two, three, or more different crops, successively; for use in autumn, winter, and spring, or from July or August, till May or June following being excellent and wholesome for salads, soups, stewing, &c., when properly blanched by planting in trenches, one row in each, and earthing up in its advancing growth, consisting of the following varieties:—

Common upright Italian, for main crops.

Solid-stalked upright,

Large upright,

Turnip-rooted spreading, or celeriac, the bottom swelling like a turnip, the principal useful part.

All raised every year from seed, in two or three different sowings, March, April, and May, to have proper succession; and transplanted into foot-wide trenches in summer and autumn, one row in each, four or five inches apart, and the trenches a yard asunder; and in advanced growth earthed up by degrees ten or twelve, to fifteen or eighteen inches or more, to blanch or whiten that length.

† *Cives*, or *Chives*; a small useful perennial herb of the onion-tribe, growing in close, tufty bunches; estimable for its leaves and small offset bulbous roots and top together, like young onions cibols, in spring, &c., to use in salads, or alone, and for culinary occasions, raised by parting the roots, spring or autumn, detaching several small roots together in each slip, and planted six to twelve inches asunder.

† *Coleworts*; open greens of the cabbage tribe, consisting both of the common open colewort kinds, such as never heart or cabbage; and of the cabbage colewort, in young open plants raised from the seeds of any of the common close heading cabbages, greatly superior to the others; the sorts are,

Common open green colewort, not now much estimable for garden culture,
Borecole open colewort,

Cabbage colewort; superior to all for general culture in the colewort order, in young open green plants, or of small close-hearting growth; boils most tender and sweet; and preferable to cultivate both in family gardens and market-grounds.

As therefore, the cabbage coleworts are the most tender and sweet eating, should generally be adopted; being such as raised from the seeds of any of the quick-heating close-growing summer cabbages, such as the sugar loaf, Yorkshire, Battersea, Russia, Antwerp, &c., sowed for coleworts, in June, July, and beginning of August, for autumn, winter, and spring supply: or may also sow in spring and summer, occasionally, to continue a succession of green small-hearting young plants, or in small light cabbage growth.

All to be transplanted in rows ten or twelve to fifteen inches asunder.

* *Coriander*; an aromatic annual herb, in growth like parsley; its leaves used in soups, salads, &c., and its seed in other domestic occasions; raised by sowing

in spring, summer, and autumn; to have a continuing succession; the plants remain where sowed.

* *Corn Salad*, or lamb's-lettuce; a small annual plant of three or four inches' growth, used as a substitute for common lettuce in winter and spring salads; sowed in July or August, and September, to stand the winter, &c., and remain where sowed.

* *Cresses*; a principal small salad herb; an annual of short duration; estimable for spring and summer salad, or is attainable at any time or season required, by sowing once a week, fortnight, or month, &c.; consisting of the following varieties, viz.:—

Common plane-leaved, for general culture,

Curled-leaved,

Broad-leaved.

By seed in several sowings for succession, spring, summer, and autumn, or any season required; once a week, or fortnight, &c., to obtain it in young growth; generally in small drills, two or three inches asunder, or in broad-cast all sowed very thick, and but lightly covered in with the earth.—See small salad.

* *Cucumber*; a most tender annual plant of long trailing growth, noted for its abundant production of fruit in long continuance in spring, summer, and autumn, obtained by aid of hot-beds in its early spring and summer culture till June; will then stand the full air, and may also then be sowed or planted in the natural ground to produce fruit in August and September: several varieties. viz.:—

Early short prickly,

Early long prickly,

Most long green prickly,

White prickly,

Long green Turkey,

Long white Turkey.

The cucumber being one of the most tender exotics of the Kitchen Garden, is sowed and raised in hot-beds from January, or February, till June, to obtain early fruit in March, April, and May, &c.; and although the plants will grow in the full air by the middle of June, it is proper to continue the occasional protection of frames and glasses in some principal beds, to extend the successional production of fruit throughout the summer; and by sowing in the natural ground, the latter end of May or beginning of June, produces full crops in August and till the middle of October: when, generally, the cold damp nights, and strong autumnal dews and rains, terminate the good production of all cucumbers exposed to the full air; or by continuing some of the bed crops, protected under frames and glasses from inclement weather at that time, adding a small lining of warm litter round the outside of the bed, to give a little bottom heat, they will continue in moderate production till the end of November, &c.

E

§ *ENDIVE*; estimable for its stocky head of blanched leaves for autumn and winter salads, &c., three varieties, viz.:—

Green curled, preferable for the main crops,

White curled,

Batavian broad-leaved, good for autumn, and early part of winter, for stewing, soups, salads, &c., but will not stand the winter effectually.

All raised by two or three different sowings from May, or beginning of June, to the end of July, or beginning of August, to have succession all autumn and winter;

but if sown earlier than May or June, they go to seed the same summer, before having mature growth ; that if any are occasionally wanted in early growth, in summer, may sow some white-curled in March, April, &c., but they will soon run. All the sorts transplanted a foot to fifteen inches asunder.

G

|| GARLICK, for its bulbous root, useful in various domestic occasions.

Raised by parting and planting the cloves of the root in spring, in rows six to nine inches asunder, and two deep, attain perfection in July and August ; then to be taken up and housed for keeping.

* *Gourds*, or Pumpkin; tenderish annual plants, of long strong, trailing growth, producing fruit in great variety in shape, size, colour, &c.; sometimes used in culinary purposes both in young green growth, and when at full maturity; consisting of

Orange-gourd,
Pear-shaped, green and striped,
Round, yellow, or lemon coloured,
Round stone-coloured,
Rock or carbuncled ;—and of various other shapes, sizes, and colours, small, middling, and large.

Pompion, or Pumpkin ; most large, round, oblong, &c.

By seed, in a hot-bed in April, for transplanting, into the natural ground, in May ; or also, sowed at once in the full ground in May aforesaid, when warm settled weather, planting or sowing the smaller sorts against some fence or railing, &c., upon which to train the plants and the larger kinds ; sow or plant in any open, sunny, space, to run upon the ground, will all produce fruit in July, August, &c.

K

* KIDNEY-BEAN, or Frenchbean ; a useful summer esculent, in its young seed-pods, many varieties, viz.:—

Dwarf kinds.

Early white dwarf,
Early liver-coloured dwarf,
Early dun-coloured dwarf,
Early red-speckled dwarf,
Black-speckled dwarf,
Streaked dwarf,
Battersea white dwarf,
Canterbury dwarf,
Tawny dwarf,
Negro or black dwarf,
Yellow dwarf,
Large white dwarf.

Note,—the colours in the above denote that of the seed-beans of the respective sorts.

Runners, or climbing kinds.

Scarlet runner ; a great bearer, in long continuance ; preferable for the main crop of runners.

White runner ; similar to the scarlet in growth and bearing, only the blossom is white, but the pods are alike, though the ripe beans are also white, like the blossom, Long-podded white Dutch runners, producing very long smooth pods, Canterbury and Battersea, small white runners.

They are sowed annually in different crops; the dwarf sorts in April and May, for the early and first main crops, and in June and July, and beginning of August for succession bearing from June till October; and the scarlet and other runners, sowed in the latter end of April, or in May and June, and will continue in production from July and August till October; especially the scarlet and white runners.

All sowed or planted in drills, two to three feet and a half asunder, and about an inch and a half deep: or the runners, &c., planted in a single row, against a wall or paling, &c.

L

LAVENDER; common spike, or spike-flowering blue.

It is propagated by slips of the outward young side shoots in April, May, or June, &c., which slip or cut off about six or eight inches long; pull away the lower leaves and plant them in a shady border, inserted two-thirds into the ground, six or eight inches asunder, and watered; and in advanced growth transplanted double or treble that distance in autumn or spring.

† *Leek*; a most useful culinary plant of biennial growth, for autumn, winter, and spring.

Large London,
Flanders.

Sowed in March, and April, for the main crops, both to remain and transplant.

* *Lettuce*; a principal annual salad plant, and, for some culinary occasions, in use most times of the year by different sowings; but in greatest perfection in summer, May, June, August, &c., but in smaller growth in autumn, winter, and spring.

Green Cos,
White Cos,
Spotted Cos,
Egyptian Cos,
Black seed green Cos,
Brown Cilicia,
Green Cilicia,
White cabbage-lettuce,
Brown Dutch cabbage,
Large Roman,
Imperial cabbage lettuce, large and fine,
Grand admiral a very large cabbage lettuce,
Hardy green cabbaging.
Tennis ball,
Prussian.

Lettuces are obtained at almost all seasons, but in greatest perfection of full growth in June, July, August, and September, till October.

They are sowed at different seasons, February or March, and April, or the main summer crops, and in May, June, July, &c., for succession; and in August and September to stand the winter in young growth, some for use in that season, and the others to remain for early spring and summer lettuces.

* *Love Apple*, or Tomatoes; for the fruit to use in soups, and to pickle, &c.

Red fruited,
Yellow fruited.

Are tender annual plants of large spreading growth, sowed in hot-beds in April, for transplanting in May, in the full ground in a sunny situation, or planted and trained against a south wall: and will produce ripe fruit in autumn, large orbicular-round, and mostly ribbed.

M

† MARJORAM ; aromatic pot-herbs.

* Sweet or summer marjoram,

† Winter and pot marjoram,

Are raised from seed sowed in April, &c., and the winter and pot majoram also by parting the roots, planted six, or ten, or twelve inches asunder.

* Melon ; for its large fine fruit of great estimation,

Romana, smallish round,

Cantaleupe large round,

Black rock Cantaleupe,

Orange Cantaleupe,

Scarlet Cantaleupe,

White Cantaleupe,

Polignac,

Oblong ribbed, netted,

Smooth green-rinded,

Green-fleshed,

Water melon, very large round green-rinded.

Of the above, the Cantaleupe kinds are in great estimation for their large handsome round size, curious carbuncled rock-like exterior, and rich flavour; though the old Romana is a good flavoured smaller melon, as also the Polignac: and the others all ripen in very good perfection of agreeable flavour.

The plants are most tender exotics, always raised in hot-beds under protection of frames, lights, hand glasses, &c., sowed in January or February for earliest, and in March and April for general and successional late crops; the fruit ripening in the earlier plants in May, June, and July, and in the others in July, August, and September.

† Mint; useful, aromatic, perennial herbs, for culinary and distilling occasions.

Common green, or spearmint proper for various kitchen uses, salads, &c.

Black or peppermint, for distilling only.

They are raised by parting the roots, autumn or spring; by offsets young plants, March and April; and by cutting off the stalks in summer.

† Mushroom; a well known culinary plant, of the fungous tribe, viz. :—

Red-gilled, or common wholesome mushroom.

There being only one real good salutiferous species, distinguished by its reddish lamella or gills underneath, they being always of a fleshy colour, or sometimes, when grown large, are of a blackish red hue externally, but internally reddish; and by which the true mushroom may be universally known from all the other numerous fungi, which are mostly of a poisonous or doubtful quality.

It is propagated and raised to maturity by its spawny progeuy, of a whitish fibrous nature, running in lumps of rotten dung, and in earth; and which spawny lumps being planted in a sort of ridge-form hot-bed, at any season, covered thickly with clean straw, it soon strikes, multiplies exceedingly over the whole bed, and produces plenty of mushrooms in five or six weeks, continuing in production sometimes several months.

Mustard; cultivated in gardens, principally as a small salad herb; and in large quantities in fields, &c., for its seed to manufacture.

Common white,

Brown.

Of the two sorts, the white is most adapted for small salading; and for which may be sowed at any season; but for the seed to manufacture, &c., should sow in the spring in drills or broadcast, and the seed will be ripe in July.

N

*NASTURTIUM, or India-cress; its young leaves and flowers in salads; and its green berries to pickle.

Major, or large running; the best for principal culture.

Minor, or dwarf.

Both sorts sowed in spring or early in summer, in drills to remain.

O

†ONION; one of our most useful family vegetables, obtained at all seasons; in young growth in spring and summer, and in its full bulbous growth in autumn, both for present use and long keeping in winter, &c., till next year.

Strasburgh or common round,
Portugal, large roundish oval,
Spanish white, large round orbicular,
James's long keeping, roundish oval,
Deptford, large round,
Reading, or white Portugal.

Either of the above may be cultivated for a full crop of bulbers; sowed the latter end of February or any time in March; but not later than beginning of April, otherwise will not bulb in large growth.

Red Spanish.

Silver-skinned good to pickle.

Both these are also bulbers, but not so eligible for a main crop as the foregoing.

Welch Onion, or Ciboul

This sort never bulbs: but being most hardy to stand the winter, is sowed in August, &c., to stand over that season for young spring onions.

P

† PARSLEY; a very salutary pot-herb, continuing for use all the year.

Common plane-leaved,
Curled-leaved, thick and bushy,
Hamburg, or large-rooted, for its root to boil.

Of the above, the first two are cultivated as pot-herbs for their leaves; the curled-leaved is preferably esteemed though they are both equally good for use; and the Hamburg sort is raised principally for its large long white root to boil and eat, both as food, and occasionally in a medical way, good for the gravel.

They are all raised from seed in any of the spring months; sowing each sort separate generally in drills, and to remain where sowed, the first two will come in for use in their leaves early in summer, and the large-rooted thinned to six inches, attains perfection in autumn, in its full grown root continuing good all winter, and following spring.

†*Parsnep*; a very wholesome and profitable esculent root for winter and spring; only one species, viz. :—

Common swelling parsnep.

Should be sowed in February or March, or early in April; broadcast, or in drills a foot asunder; and the plants thinned to ten or twelve inches distance, that the root may have room to obtain a large swelling growth; in full perfection in October and November, &c., continuing good all winter and spring till April or May.

Pease; good and profitable esculents, to cultivate in several full crops, for their plentiful production, three or four months in summer.

Early Charlton,
 Early golden Charlton,
 Early Nichol's golden,
 Reading hotspur, long pods,
 Master's hotspur, long pods,
 Dwarf marrowfat, large long pods,
 Tall marrowfat, most large,
 Spanish moratto, largish,
 Prussian prolific, great bearer, middling pods,
 White rounçival, large,
 Gray rounçival, large,
 Sugar pea, tall, with large crooked pods,
 Dwarf sugar,
 Egg pea,
 Blue union,
 Pearl,
 Crown or rose pea, of tall strong growth, producing its blossom, &c., in a tufty bunch at top,
 Leadman's dwarf, a great bearer, but very small pods, good for a latter crop, or as required,
 Spanish dwarf,
 Early dwarf frame pea, for forcing.

Of the above, the first three sorts are proper for the early crops; and of which the second and third are the earliest; but they may all be sowed both for early, and the first and second general main crops; or the fourth and fifth sorts are also very proper for principal main crops, or in succession; and the marrowfats should always be admitted in good full crops in succession to the former smaller pease; the Spanish moratto, Prussian, and rounçivals, are also very fine for secondary main crops, or as thought eligible for variety and of the other sorts may also be introduced occasionally.

In the culture of pease, the principal sorts are sowed in several different crops from November, December, or January, &c., till June, July, or beginning of August, to have regular succession the whole season, beginning first with any of the early sorts in one, two, or more crops, at about a month's interval; then either continue these in longer succession, or some of the other sorts in the same order; not omitting two or three principal crops of marrowfats, beginning in January, February, or March and any of the others in secondary crops, for variety as may be required; they must always be sowed in drills, two feet and a half to three feet or three and a half asunder, in the smaller and larger sorts.

Pennyroyal; a small creeping high-scented aromatic herb; its leafy young shoots in various cookery uses; and when in full summer's growth, to distil for pennyroyal water; raised plentifully by slips, offsets, or parting the roots, spring or summer, &c., planted six inches asunder, to remain watered.

* *Potatoe*; a superiorly profitable esculent root, for general culture in principal full crops; attainable for use almost the year round; being planted in the spring, and comes in for use in young and middling growth the same year in summer, and in large full growth for general use in autumn and all winter till spring and summer following; and which is a most valuable useful family esculent, that may be cooked in various different ways; and when thoroughly well boiled, baked, or roasted, &c., is good and wholesome: is a species of *Solanum* or nightshade; called by the botanists *Solanum tuberosum*, or tuberous-rooted nightshade; commonly called potatoe, of the following varieties:—

Early dwarf,
 Early champion,
 Large round white,
 Large oblong whitish red, or red nosed kidney,
 Common kidney,
 Small white kidney,
 Round red,
 Large round dark red, most excellent, but now almost lost to general culture.

All the sorts are propagated or raised by cuttings of the root, that is of the potatoe itself; choosing the finest of the respective kinds of middling size; cut them into several pieces or sets, each having one or two eyes, and to be planted in the spring, generally in March and April, when settled mild weather; planting them by dibble or in drills or trenches, &c., in rows two feet asunder, by eight or ten inches distant in the row, and three or four inches deep: they will come up in May, and increase by the root, for some early kinds to take up, in small size, in June, or July, &c.; but let the main crops continue in full growth till October or beginning of November, then forked up and housed for use in winter and following spring, &c., or till the production of new young potatoes the ensuing summer.

Potatoes are also occasionally raised from seed of the small fruit produced on the stalks ripe in autumn, by which to gain new varieties. Sowed in the spring.

R

* RADISH, a desirable esculent root for eating raw in spring, summer, and autumn; and some sorts also in winter.

Early short-topped purple,
 Common red,
 Early short-topped, salmon-coloured,
 Common salmon,
 Turnip-rooted small white,
 Short-topped, white turnip-rooted,
 Turnip-rooted, small red,
 Large black turnip-rooted, or Spanish, for autumn and winter.

Of the above different sorts of radishes, the common long or spindle-rooted are most eligible for the general principal crops, raised by several different sowings at three or four weeks' interval from Jannary or February, &c., till May or June, to obtain a constant succession all spring and summer, or may continue moderate sowings in July or August and September to have young autumn and winter radishes till November, &c.; and of the turnip rooted, the first two sorts may be sowed in the same seasons, as secondaries in smaller crops, or as may be required, as they are of neat growth and most delicate eating, especially the white kind; and the large black Spanish turnip-rooted is sowed principally in June or July, and beginning of August, to come in of proper growth for autumn and winter eating, being hardy to stand the weather; is sliced in salads, or eat alone occasionally with salt, vinegar, &c.

In sowing the common or long-rooted kinds generally allot the short tops for the early and first and second principal crops; the others in succession; and generally prefer some principal sowings of the salmon radish for succession and latter crops in spring and summer, &c., all sowed broadcast, and the young plants thinned two or three, to six inches.

Radish is also adopted to sow as a principal small salad herb to cut young in the seed leaves as cresses and mustard, &c.

§ Rape, or Cole; principally sowed as a small salad herb, in garden culture, and in fields to attain full growth for cattle, and to produce seed for rape oil, birds, &c.

It is sowed for small salading in spring, summer, or any season ; and to attain full growth if sowed in the spring and summer broadcast or in drills; either to remain where sowed and thinned, or transplanted.

† *Rosemary*; a shrubby evergreen, of the aromatic kind ; sometimes cultivated in a few plats for its young leafy and flowery shoots to use in a family on some medical occasions, and at funerals, &c., to prevent infectious disorders.

Common green, the principal sort.

Stripe-leaved.

It is raised by slips or cuttings of the young shoots in spring and summer ; planted in a shady border and watered, and when of advanced growth, transplanted as required.

† *Rue* ; a shrubby bushy evergreen aromatic ; a plant or two, or as required, for its leaves in domestic medical occasions and to give to poultry when disordered.

Raised either by seed or by slips or cuttings as intimated above for the rosemary.

S

† *SAGE* ; an useful aromatic of under shrubby growth for its leaves in different kitchen uses, and for sage tea, &c.

Common red for principal kitchen uses,

Green, good also for some occasions, small-leaved green, sage of virtue, or tea sage, &c.

Broad-leaved balsamic ; estimable for similar purposes.

They are all hardy evergreen plants, for use all the year, raised by slips of the young shoots in April and May ; but most successfully and May and July, of the young side shoots of the year, slipped or cut off about five or six inches long, divesting them of the under leaves, plant them in a shady border six inches asunder ; or if to remain in the same place to full growth, set them twelve inches distance, inserting them quite down to the top leaves and water them directly.

Salad Herbs ; various sorts are occasionally used ; but the principal sorts are lettuce, endive, celery, and small herbs, such as cresses, mustard, radish, &c., though several others are occasionally used as secondaries in composition with the above, such as corn salad, mint, tarragon, chervil, coriander, purslane, burnet sorrel, borage nasturtium, young onions, and radishes, and sliced red-beet root ; also red-cabbage raw, shred small, but mostly used alone ; likewise watercress, both in commixture and simply ; but as the above secondary salad herbs, &c., are rarely or never all used at one time in a salad, have only mentioned them as what are occasionally required in different families, more or less of some particular sorts, according to the peculiar relish of different palates ; and as they are also useful on other occasions, should have culture in all principal kitchen gardens.—See intimations of the different sorts in this general list.

† *Salsify* ; for its long carrot-shaped white root, to boil ; also the young spring shoots of year-old plants, to dress like asparngus.

Sow the seed in March or April and May, for first and successional crops ; either sowed broadcast or in drills, and the plants thinned six inches asunder ; the roots will be ready for drawing in July or August, September, &c., and remain good till the following spring.

|| *Savory* ; a noted aromatic pot-herb.

Summer savory, or also to dry for winter.

Winter savory, for use green all the year,—or to cut and dry for winter keeping.

They are raised by sewing their seed in spring, and transplanted in summer: and the winter savory also by bottom offsets and slips of the young shoots in spring and summer.

† *Savoy*, or Savoy cabbage; a most excellent plant for autumn and winter, cabbaging with a large, full, firm head,

Green curled savoy

Yellow curled,

Round-headed of each,

Sugar-loaf headed ditto.

They are sowed in March, April, and May, and planted out in June, July, and August, in rows two feet and a half asunder, and will be fully headed in September, October, and November, continuing good till spring; then go to seed.

|| *Shallot*; a small bulbous-rooted plant of the onion tribe; the root, the usual part, is of much estimation, both in culinary purposes, and to use raw at table, cut small and used as sauce to roast, broiled or fryed fresh meat.

It is propagated and raised by dividing the large roots into separate offsets, and plant in spring, or in October or November six or eight inches asunder, and two deep; and the root attains full growth in July or August, when being taken up, dried, and housed, keeps good till next year.

Spinach; an estimable culinary plant, obtained for use at most seasons of the year: the sorts are,

Triangular-leaved, or prickly-seeded, to sow in autumn for winter and spring supply.

Round leaved, or smooth-seeded, to sow in spring, &c., for summer use.

Mountain spinach, different from the above, but very good for similar uses; having large thick leaves.

Of the above kinds, the triangular-leaved is sowed the beginning or middle of August, to stand for winter use and following spring till May, as being the hardest to bear the inclemency of the winter weather; and the round-leaved, of a more thick succulent nature, most liable to injury from severe cold and wet, is sowed in spring, February, March, and April, for summer use, to cut in May and June, &c., and may also be sowed in the two latter named months and July, to continue the succession during the summer and autumn seasons till September; for as the spring and summer sowings, after attaining full growth, soon run up for seed the same summer, that a repetition of different sowings is necessary, but the winter crops sowed in August stand till next April or May before they run.

They are sowed, the main crops mostly broadcast and raked in and the plants thinned to three, four, or five inches distance; or, if left closer, may be thinned out by degrees for use,—especially the winter standing crops in spring; or some spring and summer crops may be occasionally sowed in drills a foot asunder.

The Mountain spinach may be sowed as above or more generally in spring and summer.

† *Thyme*; a well-known sweet-scented aromatic for various kitchen uses, of small under-shrubby growth, green for use all the year.

Common green,

Lemon-scented yellow.

But the first is that for general use, and is raised by seed sowed in April, either in broadcast or in drills for transplanting in summer, or in drills to remain—and both sorts also by parting the roots and by top slips in the spring, planted six inches to a foot asunder, or some in close edging.

§ *Turnip*; a valuable salutiferous root, very profitable for general culture in full crops, for summer, autumn, and winter; and its young short tops in spring are tender, and sweet boiling greens.

Early Dutch white, of moderate or middling size, proper for the early or general crops in gardens.

Round white, very good for general or main crops,

Stone turnip,

Large round white Norfolk, proper for large crops,

Large round, green-topped ditto,

Large round, red-topped ditto,

Tankard, large oblong, very good,

French small-round,

French long-rooted,

Black Russia, very hardy for winter,

Swedish, also very hardy,

Yellow oblong, very good,

Small red round, more for variety than for any principal crop.

They are raised by sowing in spring, summer, and early part of autumn, but for general culture allot the first three, four, or five principal sorts; generally Dutch kind for an early and first main crop; sowed in March and April, for drawing young in May, and of larger growth in June; therefore, as the early spring sowed soon run to stalk for seed the same year, larger supplies for succession standing crops should be sowed the latter end of April, or more fully in May and beginning of June, for the general summer supply and part of autumn; and for the main autumnal and general winter standing crops, should sow more largely towards the latter end of June, and in July to come in for use in full growth in September, October, and November, &c., and continue till following spring; then will all shoot for seed: or may also sow smaller portions in the early part or first fortnight of August, to stand for spring, longer in that season before they run.

All the sorts of turnips are generally sowed broadcast, moderately thin, and raked in with careful regularity; or for large crops in extensive grounds and in fields, are light harrowed in and rolled; and as they all remain where sowed, the plants when in leaf, an inch or little more broad, must be thinned or hoed six or eight to ten or twelve inches distance, or more, in the smaller middling, and larger sorts, that the root may have proper scope to swell in full growth.

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